T&D Recorder for Windows®
(RTR-5 US)

User's Manual

Thank you for purchasing our product.
Carefully read this instruction manual
before using this unit.

© Copyright 2002-2005 T&D Corporation. All rights reserved.
2005.11 16004454120

■ Notices about this User's Manual

Carefully read this manual so that you can properly use this product.
T&D Corporation accepts no responsibility for any malfunction of and / or trouble with this product or with your computer that is caused by the improper handling of this product and will deem such trouble or malfunction as falling outside the conditions for free repair of the attached warranty.

- All rights of this User's Manual belong to T&D Corporation. It is prohibited to use, duplicate and / or arrange a part or whole of this User's Manual without the permission of T&D Corporation.
- Microsoft® and Windows® are registered trademarks of Microsoft Corporation USA and are binding in the USA and all other countries.
- Company names and product names are trademarks or registered trademarks of each company.
- Specifications, design and other contents are subject to change without notice.
- On screen messages in this manual may vary slightly from the actual messages.
- Please notify the shop where you purchased this product or T&D Corporation of any mistakes, errors or unclear explanations in this manual. T&D Corporation accepts no responsibility for any damage or loss of income caused by the use of our product.
- This product has been designed for private or industrial use only. It is not for use in situations where strict safety precautions are necessary such as in connection with medical equipment, whether directly or indirectly.
- We are not responsible for any malfunction or trouble caused by the use of our product or by any problem caused by the use of measurement results of our unit. Please be fully aware of this before using our product.
- Some of our products, which come under the category of strategic goods in foreign trade law, need the permission of the Japanese government to be exported outside of Japan.
- The Manual itself can be downloaded from our Home Page: http://www.tandd.com

Software User Agreement

■ Escape Clauses

- T&D Corporation does not guarantee the operation of T&D Recorder for Windows®.
- T&D Corporation shall not accept any responsibility for any damage, whether direct or indirect, that results from the usage of T&D Recorder for Windows.
- Specifications of T&D Recorder for Windows may be subject to change and service may be terminated without advance notice to the user. In such a case, T&D Corporation shall not be responsible for any damages, whether direct or indirect, from the inability to use T&D Recorder for Windows.
- T&D Corporation has no obligation to correct any defects found in T&D Recorder for Windows.

■ Copyright

- The Copyright for T&D Recorder for Windows, including the program and relevant documents, belongs solely to T&D Corporation.
- The reprinting or redistribution for commercial purposes whether in part or in whole, in magazines or as a part of any product is strictly forbidden without the expressed consent of T&D Corporation. Any inquires concerning commercial redistribution should be directed to the Sales Department of T&D Corporation.
- Please do not attempt to make any changes or modifications to T&D Recorder for Windows.

Table of Contents

Introduction

Software User Agreement ---------- ii
What is T&D Recorder for Windows®? ---------- 1

Getting Ready

Installing the Software ---------- 3
Operating the Software ---------- 5
Forms of Communication: A Quick Look ---------- 7
Communication between RTR-5 Series Loggers and Data Collectors
- Wireless Communication ---------- 9
- Optical Communication ---------- 10

Communication between Data Collectors and Computers
- For USB ---------- 11
- For Serial ---------- 12

Communication between Data Loggers and your Computers - 13
Setting Up the Communication Port ---------- 15
Remote Unit Registration ---------- 17
Other Remote Unit Registration Functions ---------- 23

Basic Functions

RTR-51/52
- Start Recording ---------- 29
- Downloading Recorded Data ---------- 32
- Value Adjustment Function ---------- 34

RTR-53
- Start Recording ---------- 37
- Downloading Recorded Data ---------- 41
- Value Adjustment Function ---------- 43

RVR-52A
- Start Recording ---------- 46
- Downloading Recorded Data ---------- 50
- Value Adjustment Function ---------- 52

RTR-57C/57U
- Downloading Recorded Data ---------- 57
- Setting the RTR-57C/57U Clock ---------- 64
- Upper and Lower Limits ---------- 65
- Setting the Date Display Format ---------- 67

Graph

Temperature/Humidity Graph ---------- 68
- Display Names and Functions ---------- 69
- Editing the Graph ---------- 73

Multi-scale Graph ---------- 80
- Display Names and Functions ---------- 81
- Editing the Graph ---------- 85

Event Viewer ---------- 94
- Display Names and Functions ---------- 95
- File Info ---------- 97
- Print Preview and Print ---------- 98

Other Functions

Saving a File ---------- 99
Saving Data in Text File ---------- 101
Opening a File ---------- 103
How to Re-install ---------- 105

Other

Troubleshooting ---------- 106
Specification ---------- 111

What is T&D Recorder for Windows®?

■ Outline

By using T&D Recorder for Windows, you can easily display the data measured and recorded with the RTR-51/52/53, RVR-52A via our exclusive short-wave wireless technology in table or graph form and control printing with your computer.
Upon opening T&D Recorder for Windows, a launcher window in which icons are displayed will appear. By clicking an icon, the graph, settings, and /or communication screen for that type of unit will be displayed.

This software requires the following operating environment:

Compatible OS	Microsoft Windows 98SE / Me Microsoft Windows 2000 / XP
PC/CPU	IBM compatible equipped with more than Pentium 90MHz or NEC 98 Series with serial communication (RS-232C D-Sub 9 pin).
Memory	More than16MB memory capacity
Hard Disk	More than 4MB of empty hard disc space
Monitor	VGA (Above SVGA (800 × 600) is recommended) More than 256 colors can be displayed

■ Basic Functions

● Group and Remote Unit Registration

If you wish to carry out wireless communication between an RTR-57C/57U unit and RTR-51/52/53, RVR-52A unit, it is necessary to first complete via computer the Remote Unit Registration of the RTR-51/52/53, RVR-52A unit to the RTR-57C/57U. Remote Units can be operated and managed in Groups.

● Display of Data List Collected in RTR-57C/57U

A list of all data collected at the time of downloading is displayed, from which all or part of the data can be used to create files or graphs.

● Mixed Use with Other Units is Possible

You can make graphs in which data from RTR-51/52/53 and RVR-52A units are mixed. If TR-5 / TR-7 Series data have been read into the RTR-57C/57U unit, management of such mixed data is also possible.

● Temperature and Humidity Graph / Multi-scale Graph

In temperature and humidity graphs, the graph or list of temperature and humidity data is displayed. In Multi-scale graphs, the graph or list of voltage, pulse, temperature and humidity data is displayed. You can also set the scale or units to match the type of downloaded data.

● Can Display 8 Channels of Data in One Graph

Can simultaneously display up to 8 channels of recorded data downloaded from a main unit in one graph.

● Printing Graphs and Data Lists

You can print graphs displayed on screen in full color. When printing a data list, the printing of every recording date is possible.

● Measured Data List Display

In the measured data list display, the highest, lowest, and average values are shown in different colors.

● Event Viewer

In the event viewer, a data list showing the time of events is displayed.

● Print Preview and Print

Select the data to be printed and after checking it in the preview window you can proceed to print.

● Creating Text File

Recorded data can be saved in universal Text file format (such as CSV Format) to be read and manipulated by all common spreadsheet software such as Excel or Lotus.

Installing the Software

You will need to install the USB Device Driver in order to use the device with a USB cable and Windows. After installing, your computer will be able to detect and recognize an RTR-57U device that has been connected with a USB cable.
For details, see [RTR-57U User's Manual].

● Is Windows® working properly?
If Windows is not activated properly, it may be impossible to install and run T&D Recorder for Windows.

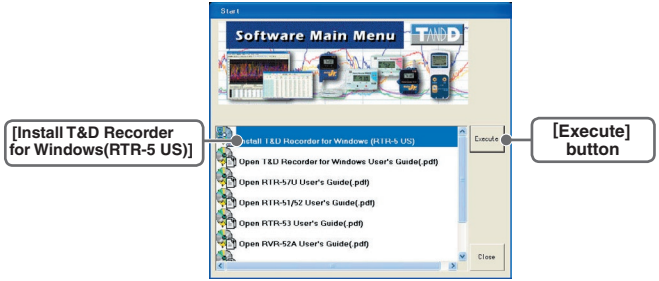
● Quit all applications.
If you are running other applications, make sure to quit them before installation. If you have any permanently active software, such as a virus check or scan program in your computer, make sure to also quit it.

■ Install the Software (T&D Recorder for Windows)

1. Start Windows.

2. Place the CD-ROM in the appropriate drive, and the 「Install Program」 window will automatically open.

・If that window does not open automatically, open the 「My Computer」 window and double-click on the icon for the CD-ROM.



3. Select [Install T&D Recorder for Windows] and by clicking on the [Execute] button the installation will begin.

4. Confirming the contents as you go, install the software according to the directions.

・After installation is completed, an icon for [T&D Recorder for Windows] will appear in the Start Menu.

Operating the Software

■ Opening the Software

Open the software by clicking on [T&D Recorder for Windows] from the list of programs in the Start Menu.

■ Main Window

Upon opening T&D Recorder for Windows, a launcher window in which icons are displayed will appear. By clicking an icon, the graph, settings, and / or communication screen for that type of unit will be displayed.

Menu Bar

In the Menu Bar are Menus containing an array of commands. Click on the desired menu in the menu bar to set or display functions for each type of device.
By clicking [Display]-[Change Icon Layout] or [Change Icon Size], you can select how you wish the Main Window to appear.

Toolbar

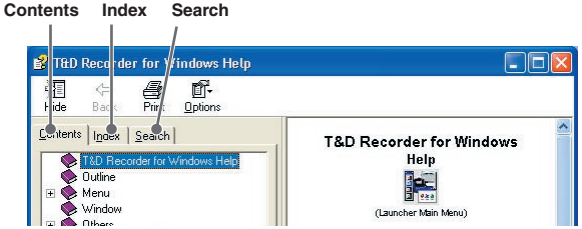
Can choose to view or hide icons. You can also make this setting from the Menu Bar by clicking [Display]-[Toolbar].

Icons

By clicking on an icon, the graph or communication display will appear for that type of unit. The graph and communication displays for each type of unit can also be viewed by clicking on that unit's type name in [Start] of the Menu Bar.

■ Help Menu

To search for unclear words or terms, click the [Help] Menu that appears in the Menu Bar and then click on one of the tabs [Contents], [Index] or [Search].



〔Contents〕

By clicking the mark of the classified topic, an explanation will be displayed.

〔Index〕

Select a key word from the key word list and by clicking the [Display] button, the explanation will be displayed.

〔Search〕

Enter the key word you wish to search for and click the [Start Search] button and the topic in which the key word is included will be displayed. Then select the topic and click the [Display] button to have the explanation displayed.

- Click on the [Help] button in any dialog box and explanations about the dialog box will be displayed.
- In the graph display window, after clicking on the 〔 ? 〕 in the toolbar, you can click on any Menu, any Icon, or any part of the Main window and an explanation will be displayed.

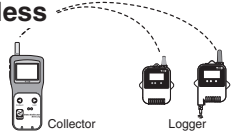
Forms of Communication: A Quick Look

There are various ways that communication can be carried out between RTR-5 Series Loggers and Data Collectors, Data Collectors and your Computer, and Loggers and your Computer. For each type of communication the set-up and procedure varies. Please take a quick look at the chart below and see the pages noted under each type of communication for more details.

1 Communication between RTR-5 Series Loggers and Data Collectors

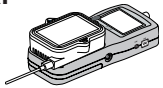
There are two ways to carry out communication between a Data Logger and a Data Collector: Wireless and Optical.

Wireless



See p.9 or RTR-57U User's Manual.

Optical



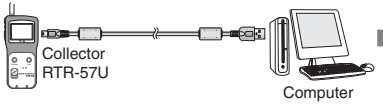
See p.10 or RTR-57U User's Manual.

*To carry out wireless communication you must first register the Remote Units with which you wish to communicate into the Collector. (For details about registration, see p.17)

2 Communication between Data Collector(s) and your Computer

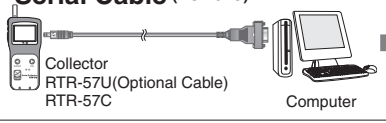
Depending upon the type of Data Collector you are using there are two ways to communicate between a Data Collector and your Computer: via USB Cable or via Serial Cable. The USB cable function is only available for RTR-57U Collectors.

USB Cable (RTR-57U only)



See p.11・57

Serial Cable (RS-232C)

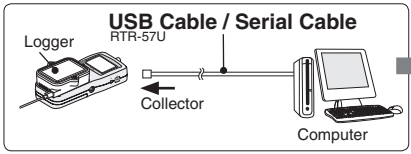


See p.12・57

3 Communication between Logger(s) and your Computer

By using a Data Collector as a communication port or hub, communication can be carried out between a Data Logger and your Computer using optical communication for Logger to Collector communication and either Serial or USB communication (USB for RTR-57U only) for Collector to Computer communication.

USB Cable / Serial Cable



See p.13・29

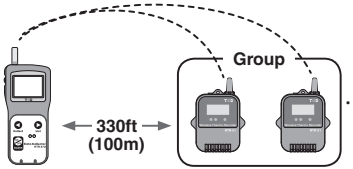
Communication between
RTR-5 Series Loggers and Data Collectors

There are two methods to communicate with RTR-51/52/53, RVR-52A Data Loggers; they are [Wireless Communication] and [Optical Communication].

■ Wireless Communication

Downloading recorded data from a Data Logger in the field to an RTR-57C/57U unit can be carried out via Wireless Communication (Special Short-wave Radio Data Communication).

1. Register the Remote Unit.
   Via the RTR-57C/57U, connect a Data Logger to your computer and using the T&D Recorder for Windows software register that Data Logger as a Remote Unit.
2. Place the Remote Unit in the actual place where you wish to make measurements.
   If direct and unobstructed, the communication range is about 330 ft (100 meters).

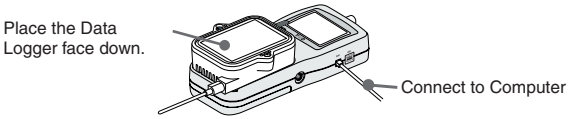


・If direct and unobstructed, the communication range is about 330ft (100 meters).

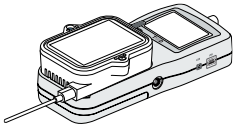
3. Carry out the Wireless Communication Test.
   There are instances when communication cannot occur within 330 ft (100 meters). Please check to see if communication is possible by running a Search for Remote Units that have been registered via the RTR-57C/57U.

■ Optical Communication

To carry out communication, place the Data Logger face down on the RTR-57C/57U.



It is possible to carry out some operations such as recording start settings or changes, and downloading recorded data via communication with an RTR-57C/57U unit without connecting to a computer. For details, please see the RTR-57C/57U User' s Manual.



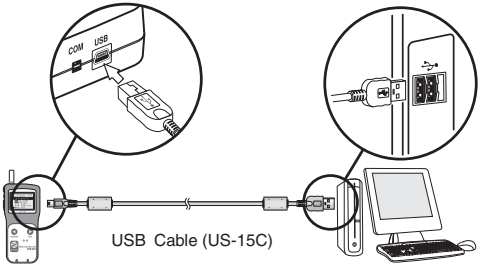
Communication between
Data Collectors and Computers

■ For USB Communication between RTR-57U and your Computer

Connect the US-15C communication cable (included in pack) to the USB port of your computer.

USB Port Mark

The USB cable is a USB A plug ⇔ USB mini-B plug type.
Please connect to a place with this kind of mark.



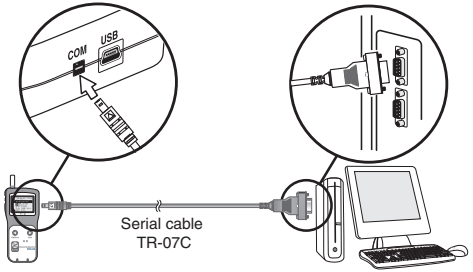
- If the cable is connected to the wrong port, communication cannot take place.
- Be sure to securely connect the cable to avoid any communication failure due to a loose connection.

■ For Serial Communication between RTR-57U and your Computer

Connect the RS-232C communication cable TR-07C (Optional Cable) to the serial port of your computer.

Serial Port Mark

The communication cable connection is a D-Sub 9 pin female. Please connect it to a port that has markings such as these.

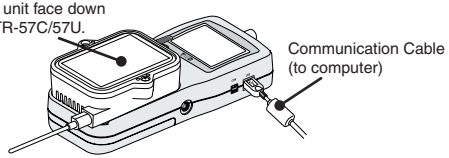


- If the cable is connected to the wrong port, communication cannot take place.
- Be sure to securely connect the cable to avoid any communication failure due to a loose connection.

Communication between
Data Loggers and your Computers

1. Connect the RTR-57C/57U Unit to your computer with the provided communication cable.
(USB for RTR-57U or RS232C for RTR-57C)

2. Place the Data Logger on the RTR-57C/57U.

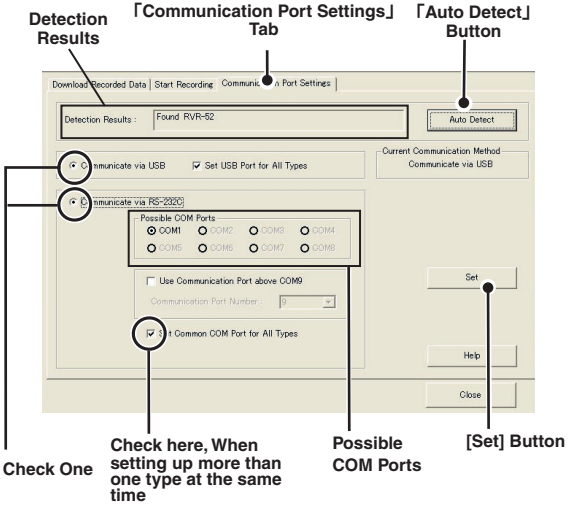


Note

- If light enters during communication, an error will occur. Please make sure to place the unit within the ridges for an exact fit.
- For details about how to register, see the [Help Menu] in the provided software 『T&D Recorder for Windows®』 or the accompanying User' s Manual.

Setting Up the Communication Port

「Communication Port Settings」 Window



■ Communicate via USB

1. In the Toolbar of the Data Logger you are using, under 「Communication」 select 「Select Communication Port」. Open the Settings Window by clicking the [Communication Port Settings] Tab.
2. Place a check next to [Communicate via USB] and click the [Set] button to complete the settings.
3. If you wish to set the same port for all types of devices put a check next to [Set USB Port for All Types].

■ Communicate via RS-232C

When wishing to carry out communication using a serial communication cable, please make serial port settings. Set which serial port you would like to use to communicate with the Data Logger. There are two methods to make the settings: [Auto-Detect] and [Select Serial Port].
Connect the serial cable to port you wish to use and then connect it to the logger.
If you wish to use the same COM Port for several types of devices.
Place a check next to <Set as Common COM Port for all Types> and click [OK] and port settings can be done for all devices in one step.

■ Using Auto Detect for Port Settings

1. In the main window, open the Setting / Communication Display of the type of Data Logger connected to the computer and click the [Communication Port Settings] Tab.
2. Click the [Auto Detect] button to start the detection process.
3. When the detection is completed, a message will be displayed in the [Detection Results] section.

[Set] Button
Fixes the settings you have made in the dialog box.

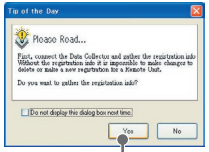
[Close] Button
Closes the dialog box.

Remote Unit Registration

To carry out wireless communication between a Data Collector (RTR-57 Series) and a Remote Unit (RTR-51 / RTR-52 for temperature, RTR-53 for temperature and humidity, or RVR-52A for voltage and pulse), it is first necessary to register all remote unit information and make all pertinent settings.
In the Launcher Window, click the [Remote Unit Registration] icon; this will open the Remote Unit Registration Window.
(It also possible to open the [Remote Unit Registration] in the [Communication] Menu for each type of device.)

1. By selecting the icon [Remote Unit Registration], a message will be displayed.

※ Remote Unit Registration can be carried out for each type of unit from the Setting / Communication Menu for that unit [Communication]- [Remote Unit Registration].

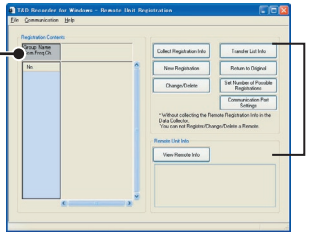


[Yes] button

After the [Please Read···] message appears, by clicking the [Yes] button the gathering of Remote Unit registration info will begin

Collect Registration Info

This function allows you to collect all Remote Unit Registration info in the RTR-57C/57U. That info (Group Name / Remote Unit Number / Remote Unit Name) will be displayed in a list. In order to delete, change or register any groups or remote units in an RTR-57C/57U, it is necessary to connect that RTR-57C/57U to your computer and carry out the [Collect Registration Info] before proceeding.



[Collect Registration Info] Button
It is possible to gather remote unit registration info for all Remote Units registered in the Data Collector. (See p.19 for details)

[New Registration] Button
Set up a new Remote Unit registration; the contents will be registered in both the Remote Unit and the Data Collector. (See p.20 for details)

[Change / Delete] Button
Change or delete the Remote Unit Registration Contents in the Data Collector. (See p.25 for details)

[Transfer List Info] Button
Transfer the contents of a Remote Unit Registration File to a Data Collector. This is especially useful when setting up a number of Data Collectors with the same registration contents. (See p.27 for details)

[Return to Original] Button
Use this to re-initialize a Data Collector's Remote Unit Registration Contents. (See p.25 for details)

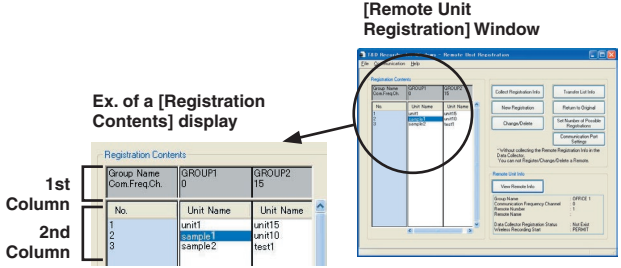
[Set Number of Possible Registrations] Button
Set registration mode by choosing possible number of groups and remote units to be registered. (See p.24 for details)

[Communication Port Settings] Button
Make communication port settings here. (See p.15 for details)

[View Remote Info] Button
By pressing this you can view the registration info for the Remote Unit that is currently placed on the Data Collector. (See p.28 for Detail)

■ Collecting Registration Info：[Collect Registration Info] Button

Displays remote registration info for all units registered to that Data Collector.



1st Column (dark gray background)

Group Name: View a List of currently registered Groups.

Frequency Channel: View the Communication Frequency Channel for the Groups being displayed.

2nd Column (light blue background)

Number: View the Remote Unit Numbers

The Remote unit info will appear under the Group into which it has been registered.

If there is an empty remote number, the info area will be left blank.

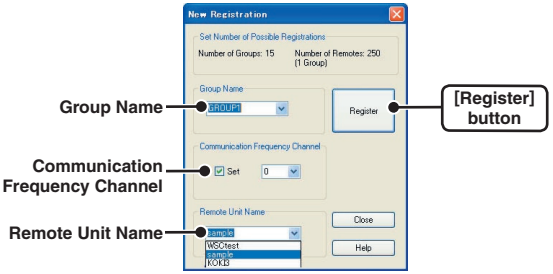
■ Creating a New Registration: [New Registration] Button

1. Place the Remote Unit (Data Logger) you wish to register face down on top of the Data Collector and click the [New Registration] button.

Note

- If no Remote Unit is on top of the Data Collector or no Remote unit can be found, a confirmation message will appear after which the info will be registered in the Data Collector only.
- If the info is only registered in the Data Collector and no Remote Unit contains that same info wireless communication cannot occur, so please be careful when registering units.
- If you wish to register a multiple number of Remote Units to the same Group, proceed by placing and replacing the Remote Units you wish to register on the Data Collector and carry out registration for each one.

2. Set the Group Name, Remote Name, and Communication Frequency Channel.



3. By clicking the [Register] button, registration will be completed.

- If you are registering a number of remote units to the same group, place each one on top of the RTR-57C/57U and carry out the registration into the same group.
- If you are registering units to different group names, please follow the above steps over again.

4. Upon completion, the [Registration Contents] will be displayed and by clicking [Close] the registration will be finished and the window closed.

- By clicking on a Group Name, the Frequency Channel for that group, as well as, the Remote Unit Name(s) and Number(s) in that group will be displayed.

Group Names

- Group Names can be entered with up to 8 letters.
- You can also select an already registered group name and make slight changes to make a new name.
- If you are using a multiple number of Data Collectors (RTR-57C/57U) and register units using the same Group name, communication may occur with a Remote Unit registered to a different Data Collector (RTR-57C/57U). Hence, if you are using a multiple number of Data Collectors, please register units making sure to use different Group names for each Data Collector.

Remote Names

- Remote Names can be entered with up to 8 letters.
- You can also select an already registered remote name and make slight changes to create a new name.

Communication Frequency Channel

- By clicking the [Set] check box you can select a channel number.
- One Frequency Channel (0-21) can be set for each Group.

CH	Frequency(MHz)	CH	Frequency(MHz)	CH	Frequency(MHz)
0	902.28072	8	911.717904	16	921.155088
1	903.460368	9	912.897552	17	922.334736
2	904.640016	10	914.0772	18	923.514384
3	905.819664	11	915.256848	19	924.694032
4	906.999312	12	916.436496	20	925.87368
5	908.17896	13	917.616144	21	927.053328
6	909.358608	14	918.795792		
7	910.538256	15	919.97544		

Note

- The default frequency channel setting for Group 1 is '0'
- If no settings are chosen, an unused frequency channel will be automatically assigned.
- A frequency channel setting can only be made when registering a new group.
- Once a channel has been set for a group it cannot be changed.
- The specified frequency channel will be used for all communication with remote units in that group. If another RTR-57C/57U is using the same channel in the same area, communication may become unstable.

■ Position the Remote Unit(s) in the place(s) where you want to measure and check if communication is possible.

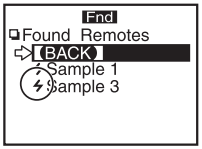
From an RTR-57C/57U unit, it is possible to find any registered Remote Unit and make sure communication can be carried out.

1. In the Main Window, activate [Find Remotes].

2. Choose the range in which to search and activate.

- If you choose [All Groups], the search for remotes in all registered groups will begin immediately.
- If you choose [Specify Group], select the desired group from the list to start the search.

3. After the search has been completed, a list of possible Remote Units for communication will appear in a list.



Note

- Remote Units for which communication is possible will be marked with an 「ϟ」 before its name.
- For details, see the RTR-57C/57U User's Manual.

Other Remote Unit Registration Functions

The following operations can be carried out in the Remote Registration Window. Be sure to connect the RTR-57C/57U to your computer and collect the registration info of RTR-57C/57U before carrying out these operations.

■ Save Registration Contents to File: 「File」Menu

You can save the Group and Remote Unit Registration Info to a file.

1. From the [File] Menu, choose [Save Registration Contents to File].
2. Designate the saving location and enter a file name.
3. Click the [Save] button to save the file.

Note
- You cannot edit the contents of registration info from a saved file.
- You cannot send text file.

■ Save as Text File: 「File」Menu

You can save the Group and Remote Unit Registration Info as a text file.

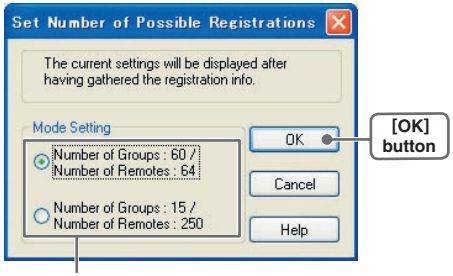
1. From the [File] Menu, choose [Save as Text File].
2. Designate the saving location and enter a file name.
3. Click the [Save] button to save the file.

Note
- You cannot edit the contents of registration info from a saved file.

■ [Set Number of Possible Registrations] Button

There are two patterns for setting and registering the largest number of groups and remotes into one RTR-57C/57U.

1. Select a pattern.
2. Click [OK] button to complete the change.


Set Number of Possible Registrations
The current settings will be displayed after having gathered the registration info.
Mode Setting
Number of Groups : 60 / Number of Remotes : 64
Number of Groups : 15 / Number of Remotes : 250
OK
Cancel
Help
[OK] button

Select a Pattern

Pattern 1: Number of Groups : 60 / Number of Remotes in 1 Group: 64
Pattern 2: Number of Groups: 15 / Number of Remotes in 1 Group: 250

Note
- The Default Setting is Pattern 1
- If you wish to monitor using the [All Groups] range, it is possible to monitor only 120 Remote Units. Therefore, either register only 120 Remote Units to the Group or select to monitor using the [Specify Group] range.
- If changes are made to the pattern, the Remote Unit Registration Contents saved in the RTR-57C/57U will be automatically returned to the original default contents. Please be careful.

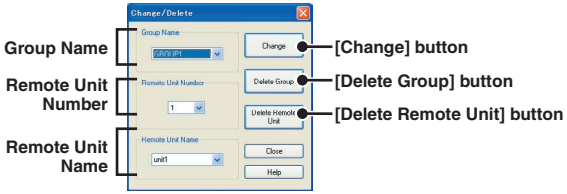
■ [Return to Original] Button

All info saved in the RTR-57C/57U will be erased and will be returned to as it was when it left the factory: Group Name: Group 1 / Remote Unit: NONE / Communication Frequency: 0

1. Connect the RTR-57C/57U unit you wish to return to the factory settings.
2. Click the [Return to Original] button, and the process will begin.

■ [Change/Delete] Button

You can make changes to a registered Remote Unit Name or delete a Group or Remote Unit.



[Change] Button

If a Remote Unit is placed on top of the Data Collector, the changes for the selected info will be performed in both the Data Collector and the Remote Unit. If no Remote Unit is on top of the Data Collector or no Remote Unit can be found, a confirmation message will appear after which the info will be registered in the Data Collector only.

Note

- By sending, you will delete all prior registration contents.
- If the info is only registered in the Data Collector and no Remote Unit contains such info (Group name, frequency channel, remote number are all not the same) wireless communication cannot occur, so please be careful when registering units.

[Delete Group] Button

Deletes a selected Group. When deleting a Group all remote Unit Registration Info for that Group will also be automatically deleted, so please take care when deleting Groups.

[Delete Remote Unit] Button

- If a Remote Unit is placed on top of a Data Collector to which it is registered, the Remote Unit Registration Info will be deleted from both the Remote Unit and the Data Collector.
- If it is a Remote Unit not registered to that Data Collector, a confirmation message will appear, after which the registration info will be deleted from only the Data Collector.
- If no Remote Unit is on top of the Data Collector or no Remote Unit can be found, a confirmation message will appear after which the registration info will be deleted from only the Data Collector..
- After deletion of info from a Remote Unit, the unit will be returned to its original default settings.

■ [Transfer List Info] Button

If the registration contents of two or more Data Collectors (RTR-57C/57U) are the same, it is possible for communication to occur between a number of Data Collectors and one Remote Unit.

By sending the registration contents from the saved file of one RTR-57C/57U to another Data Collector, it is possible to easily create a multiple number of Data Collectors with the same registration contents.

By opening the saved Remote Registration File (extension .mnf) you can view the saved registration info list. After confirming the contents, click the [Transfer List Info] button.

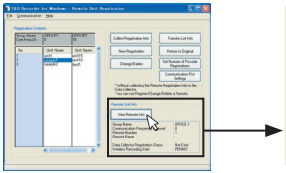
Note

- After the transfer has been completed, the previous registration contents will be overwritten.
- If the number of Remote Units or Groups in the transferred file is lagrger than that of the setting for the Number of Possible Registrations, the transfer cannot becompleted. Please make changes to the Number of Possible Registrations.(see p.24 for details)

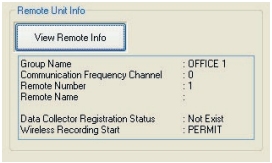
■ [View Remote Info] Button

This allows you to view the registration contents of any Remote Unit presently connected to the RTR-57C/57U. The Registration Contents of units registered to a different RTR-57C/57U can be viewed as well.

[Remote Unit Registration] Window



Ex. of a [Registration Info List] display


Remote Unit Info
View Remote Info
Group Name : OFFICE 1
Communication Frequency Channel : 0
Remote Number : 1
Remote Name :
Data Collector Registration Status : Not Exist
Wireless Recording Start : PERMIT

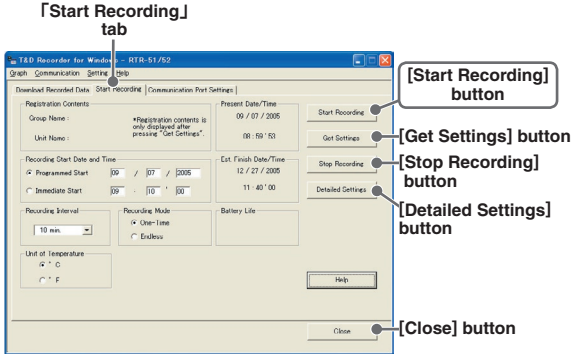
Group Name	The Group Name to which the Remote Unit belongs
Communication Frequency Channel	The Communication Frequency Channel Number for the Group to which Remote Unit belongs
Remote Number	The number of the Remote Unit
Remote Name	Data Logger Registration Status
Data Collector Registration Status	Exist : If remotes are registered in the presently connected RTR-57C/57U Not exist : If remotes are not registered in the presently connected RTR-57C/57U －－ : If registration info has not been collected from presently connected RTR-57C/57U
Wireless Recording Start	Save wireless recording start settings If forbidden to start recording: FORBID If permission to start recording: PERMIT

RTR-51/52 : Start Recording

Here all settings and communication for RTR-51/RTR-52 (Wireless Temperature Data Loggers) can be carried out. Connect a RTR-51/RTR-52 Data Logger to your computer so that communication can occur and check to make sure that your computer system clock is correct.

(For details about connecting the Data Logger, see page 13)

1. In the Main Window, click the icon [RTR-51/52].
2. Click the [Start Recording] tab and make recording settings.
3. After making all the desired settings, click the [Start Recording] button to transmit them.
4. After transmission has been completed the communication result will appear. By clicking [OK], the set-up process will be finished. By clicking [Close], you can close the window.



Recording Start Date and Time

Select the Recording Start Method

- Programmed Start: Recording will begin on the day and time entered.
- Immediate Start: Recording will begin as soon as settings are completed.

Recording Interval

Select from: 1,2,5,10,15,20,30 seconds
1,2,5,10,15,20,30,60 minutes

By clicking 〔▼〕 you can select from the recording interval list.

Recording Mode

One-time: When the number of readings has reached 16,000, the unit display will read [FULL] and recording will automatically stop.

Endless: When the number of readings reaches 16,000, the next one will overwrite the oldest or first reading.

Temperature Unit

Change the display of temperature on the Thermo Recorder between [℃] and [˚F].

※ By clicking the [Get Settings] button, registration contents and remaining battery life will be displayed.

■ [Get Settings] Button

The Remote Unit recording settings, registration contents, and remaining battery life are displayed.

- Registration contents: If a settings transmission was received it displays the Group and Remote Name(s).
- Remaining battery life: If a settings transmission was received it displays the remaining battery life.

■ [Stop Recording] Button

Stop current recording of Data Logger.

■ [Detailed Settings] Button

Make detailed settings before clicking the [Start Recording] button.

Start Wireless Communication

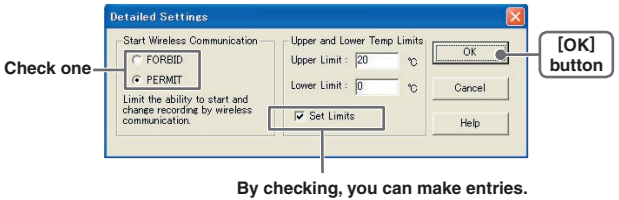
Recording can normally be started by wireless communication between a Data Collector and a RTR-51/RTR-52 Logger, but by choosing [FORBID], permission will not be granted to start recording by wireless communication, thereby preventing accidental recording from occurring. If you wish to forbid the starting of recording by wireless communication, check [FORBID]; to allow, check [PERMIT].

Note

・The Default Setting is [PERMIT]

Upper and Lower Limits

The Data Collector (RTR-57C/57U) can judge whether or not the recorded data that it has downloaded is within the set upper and lower limits. By checking the [Set Limits] box, you will be able to enter an upper and lower limit within－40 ～ 155℃ (－40 ～ 311 ˚F) .



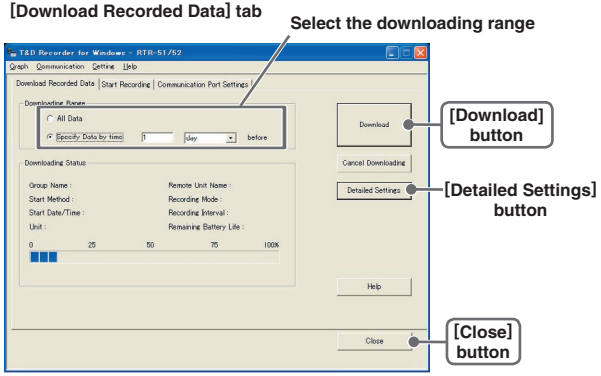
RTR-51/52 : Downloading Recorded Data

Connect the RTR-51/52 Unit for communication with your computer.

(For details about connecting the Data Logger, see page 13)

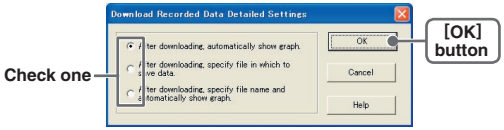
1. In the Main Window, click the icon [RTR-51/52].
2. Click the [Download Recorded Data] tab.
3. After selecting the downloading range, click the [Download] button to start downloading.
4. When downloading has been completed a graph will be displayed.

   If you have checked [After downloading, specify file in which to save data] in the Detailed Settings, please view the graph after specifying the file in which you wish to save the downloaded data.



■ [Detailed Settings] Button

You can make settings for the processing of the downloaded recorded data.



・After downloading, automatically show graph
After data has been downloaded it will automatically be displayed in the Temp /Humidity graph Window.
The File is not saved and if necessary should be done separately.

・After downloading, specify file in which to save data
After data has been downloaded, the [Save File] dialog box will appear wherein you can save the data to a specified file.

・After downloading, specify file name and automatically show graph
The data is saved to the specified file and the graph for that file is automatically opened in the Temp / Humidity Graph Window. Even if the data is set to be automatically shown in a graph; that does not mean it will be saved. Please save it under another name.

RTR-51/52 : Value Adjustment Function

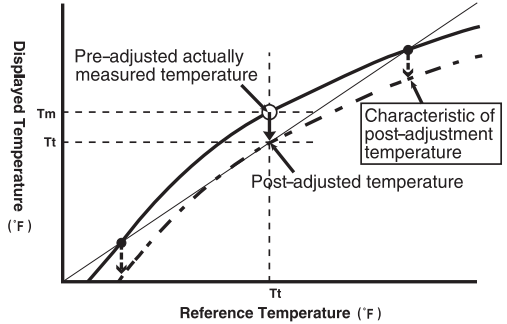
This function enables the user to make adjustments to measured values to correct inaccuracies that may occur when compared to a standard or reference temperature measurement. By setting an adjustment equation beforehand, the adjustment function will automatically calculate to record and display the post-adjusted measurement. It is possible to select from two methods of adjustment: 1-point adjustment and 2-point adjustment.

Note

・When you are carrying out adjustments and formulating equations please take care with the settings and take personal responsibility for the process.

■ Temperature: 1-point Adjustment

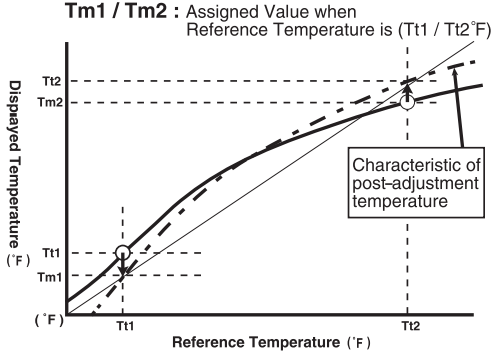
Tm : Assigned Value when Reference Temperature is (Tt˚F)



Adjustment is carried out by entering the value of the difference between the displayed temperature measurement reading and the reference one to which it is being compared.

・Please set so that the possible adjustment range is within ± 54 ˚F.

■ Temperature: 2-point Adjustment

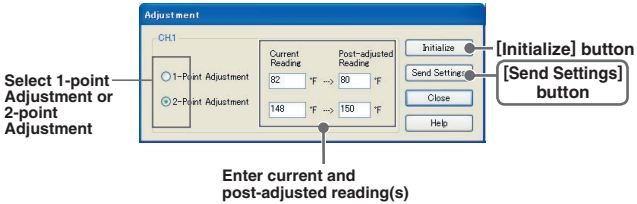


Adjustment is carried out by entering values for the differences between two displayed temperature measurement readings and the reference ones to which they are being compared.

・Please set so that the possible adjustment range is within ± 5 ˚F.

■ Adjustment Settings

1. Please follow directions as found in [Communication between Data Loggers and Computers] by connecting the RTR-57U unit to your computer and place the Data Logger unit face down on top of it. (see p.13 for details)
2. In the Main Window, click on the Data Logger icon. To open the [Adjustment] Window, click on [Settings] in the Menu Bar and then select [Adjustment Settings] from the pull down menu.



3. Select either [1-point Adjustment] or [2 Point Adjustment].
4. Please enter the actual pre-adjusted value(s) in the [Current Reading] column and the post-adjusted reference value(s) in the [Post-adjusted Reading] column.
5. Click on the [Send Settings] button to send the adjustment equation to the selected Data Logger.

[Initialize] Button
Clears any previous adjustment equation(s) from the Data Logger.

[Send Settings] Button
Transmits the adjustment equation to the Data Logger.

[Close] Button
Quits and closes the window.

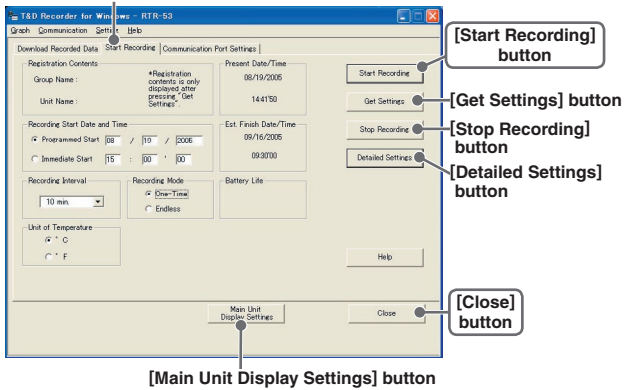
Note
・We cannot guarantee that after carrying out adjustment the measuring accuracy will improve for all measuring ranges.
・By carrying out adjustment on an already adjusted device without first clicking the Initialize button, the new adjustment equation will be be used to further adjust the previously adjusted result. It is important to remember that if adjustment takes place without initializing the device, the adjustment will include the first equation as well as the second and an over adjustment will occur. This over adjustment will be especially large when making a 2-point adjustment and the measurement falls outside of the range of the two points entered.
When you are carrying out adjustments and formulating equations please take care with the settings and take personal responsibility for the process.

RTR-53: Start Recording

Here all settings and communication for RTR-53 (Wireless Temperature / Humidity Data Loggers) can be carried out. Connect a RTR-53 Data Logger to your computer so that communication can occur and check to make sure that your computer system clock is correct.

(For details about connecting the Data Logger, see page 13)

1. In the Main Window, click the icon [RTR-53].
2. Click the [Start Recording] tab and set the recording conditions.
3. After making all the desired settings, click the [Start Recording] button to transmit them.
4. After transmission has been completed the communication result will appear. By clicking [OK], the set-up process will be finished. By clicking [Close], you can close the window.



Recording Start Date and Time

Select the Recording Start Method

- Programmed Start: Recording will begin on the day and time entered.
- Immediate Start: Recording will begin as soon as settings are completed.

Recording Interval

Select from: 1,2,5,10,15,20,30 seconds
1,2,5,10,15,20,30,60 minutes

By clicking〔▼〕you can select from the recording interval list.

Recording Mode

One-time: When the number of readings has reached 16,000, the unit display will read [FULL] and recording will automatically stop.

Endless: When the number of readings reaches 16,000, the next one will overwrite the oldest or first reading.

Temperature Unit

Change the display of temperature on the Thermo Recorder between [℃] and [°F].

※ By clicking the [Get Settings] button, registration contents and remaining battery life will be displayed.

■ [Get Settings] Button

The Remote Unit recording settings, registration contents, and remaining battery life are displayed.

- Registration contents: If a settings transmission was received it displays the Group and Remote Name(s).
- Remaining battery life: If a settings transmission was received it displays the remaining battery life.

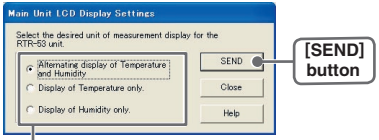
■ [Stop Recording] Button

Stop current recording of Data Logger.

■ [Main Unit Display Settings] Button

Set the desired unit of measurement display for the RTR-53 unit LCD display.

1. Select the unit of display you wish to set.



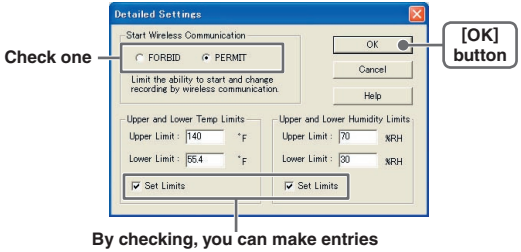
Check one

- Alternating display of Temperature and Humidity
- Display of Temperature only
- Display of Humidity only

2. Click the [Send] button to complete the setting.

■ [Detailed Settings] Button

Make detailed settings before clicking the [Start Recording] button.



Start Wireless Communication

Recording can normally be started by wireless communication between a Data Collector and a RTR-53 Logger, but by choosing [FORBID], permission will not be granted to start recording by wireless communication, thereby preventing accidental recording from occurring. If you wish to forbid the starting of recording by wireless communication, check [FORBID]; to allow, check [PERMIT].

Note

- The Default Setting is [PERMIT]

Upper and Lower Limits

The Data Collector (RTR-57C/57U) can judge whether or not the recorded data that it has downloaded is within the set upper and lower limits. By checking the [Set Limits] box, you will be able to enter an upper and lower limit within the following conditions..

- Upper and Lower Temperature Limits:
  −40 ～ 80℃ / −40 ～ 176 ˚F
  (decimals will automatically converted to units of 0.5℃)
- Upper and Lower Humidity Limits:
  0 ～ 100%RH (Integers only)

RTR-53: Downloading Recorded Data

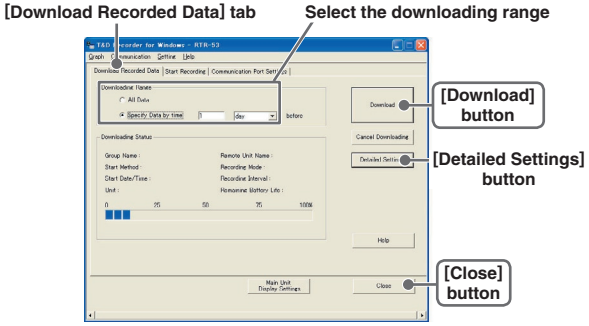
Connect the RTR-53 Unit for communication with your computer.

(For details about connecting the Data Logger, see page 13)

■ Download Recorded Data

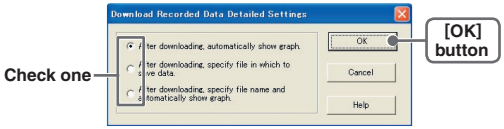
1. In the Main Window, click the icon [RTR-53].
2. Click the [Download Recorded Data] tab.
3. After selecting the downloading range, click the [Download] button to start downloading.
4. When downloading has been completed a graph will be displayed.

   If you have checked [After downloading, specify file in which to save data] in the Detailed Settings, please view the graph after specifying the file in which you wish to save the downloaded data.



■ [Detailed Settings] Button

You can make settings for the processing of the downloaded recorded data.



- **After downloading, automatically show graph**
  After data has been downloaded it will automatically be displayed in the Temp/Humidity graph Window.

  The File is not saved and if necessary should be done separately.
- **After downloading, specify file in which to save data**
  After data has been downloaded, the [Save File] dialog box will appear wherein you can save the data to a specified file.
- **After downloading, specify file name and automatically show graph**
  The data will be saved to the specified file and the graph for that data will be automatically shown. Even if the data is set to be automatically shown in a graph; that does not mean it will be saved. Please save it under another name.

RTR-53 : Value Adjustment Function

This function enables the user to make adjustments to measured values to correct inaccuracies that may occur when compared to a standard or reference temperature measurement. By setting an adjustment equation beforehand, the adjustment function will automatically calculate to record and display the post-adjusted measurement. It is possible to select from two methods of adjustment: 1-point adjustment and 2-point adjustment.

Note

・When you are carrying out adjustments and formulating equations please take care with the settings and take personal responsibility for the process.

■ Humidity: 1-point / 2-point Adjustment

Before : Enter the actual measurement before adjustment

After : Enter the desired measurement after adjustment.

・Entries are valid to one decimal point.

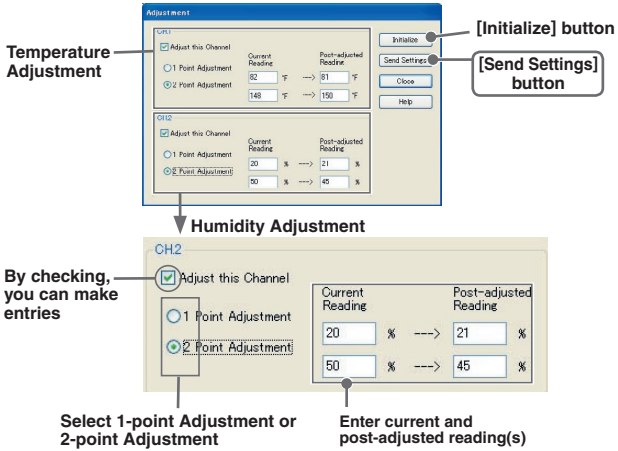
・The input value for [Post-adjusted Reading] must be less than ± 5% in comparison to the input value for [Current Reading].

■ Adjustment Settings

1. Please follow directions as found in [Communication between Data Loggers and Computers] by connecting the RTR-57U unit to your computer and place the Data Logger unit face down on top of it. (see p.13 for detail)

2. In the Main Window, click on the Data Logger icon. To open the [Adjustment] Window, click on [Settings] in the Menu Bar and then select [Adjustment Settings] from the pull down menu.

3. Check [Adjust this Channel], and select either [1-point Adjustment] or [2 Point Adjustment].



4. Please enter the actual pre-adjusted value(s) in the [Current Reading] column and the post-adjusted reference value(s) in the [Post-adjusted Reading] column.

5. Click on the [Send Settings] button to send the adjustment equation to the selected Data Logger.

[Initialize] Button
Clears any previous adjustment equation(s) from the Data Logger.

[Send Settings] Button
Transmits the adjustment equation to the Data Logger.

[Close] Button
Quits and closes the window.

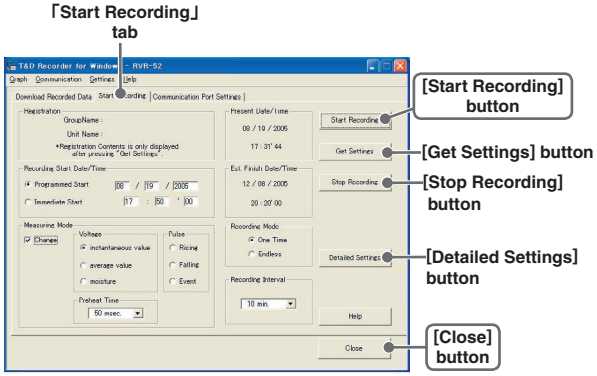
Note
- We cannot guarantee that after carrying out adjustment the measuring accuracy will improve for all measuring ranges.
- By carrying out adjustment on an already adjusted device without first clicking the Initialize button, the new adjustment equation will be be used to further adjust the previously adjusted result. It is important to remember that if adjustment takes place without initializing the device, the adjustment will include the first equation as well as the second and an over adjustment will occur. This over adjustment will be especially large when making a 2-point adjustment and the measurement falls outside of the range of the two points entered.
  When you are carrying out adjustments and formulating equations please take care with the settings and take personal responsibility for the process.

(For details about the RTR-51/52 Temperature Adjustment Function. see p.34)

RVR-52A: Start Recording

Here all settings and communication for RVR-52A (Wireless Voltage / Pulse and Soil Moisture Data Loggers) can be carried out. Connect a RVR-52A Data Logger to your computer so that communication can occur and check to make sure that your computer system clock is correct.
(For details about connecting the Data Logger, see page 13)

1. In the Main Window, click the icon [RVR-52A].
2. Click the [Start Recording] tab and make recording settings.
3. After making all the desired settings, click the [Start Recording] button to transmit them.
4. After transmission has been completed the communication result will appear. By clicking [OK], the set-up process will be finished. By clicking [Close], you can close the window.



Recording Start Date and Time

Select the Recording Start Method

・Programmed Start: Recording will begin on the day and time entered.

・Immediate Start: Recording will begin as soon as settings are completed.

Recording Interval

Select from: 1,2,5,10,15,20,30 seconds
1,2,5,10,15,20,30,60 minutes

By clicking〔▼〕you can select from the recording interval list.

Note ・In event recording, the interval is always 1 second.

Recording Mode

One-time: When the number of readings has reached 16,000, the unit display will read [FULL] and recording will automatically stop.

Endless: When the number of readings reaches 16,000, the next one will overwrite the oldest or first reading.

Note ・In event recording, the number of readings is 8,000.

Measurement Mode

Voltage(V)

Instantaneous Value : Record the voltage measurement as the instantaneous value for each recording

Average Value : Record as the average value for each recording interval span. The average value for recording intervals under 15 seconds will be calculated as the average of the measurements from every 1 second. The average for intervals over 20 seconds will be calculated as the average of the measurements from every 2 seconds.

Moisture : Record Moisture by Percentage
The unit of measurement on the display will show [P] for Percent.

Pulse Lo → Hi: Record the number of signals rising within the recording interval you have set.

Hi → Lo: Record the number of signals falling within the recording interval you have set.

Event Hi ⇔ Lo : Record the time of any event; a rising (Lo to Hi) or falling (Hi to Lo) waveform that occurs for more than 1 second at an input voltage range of between 0-30V.

Note

・By clicking the [Get Settings] button, registration contents and remaining battery life will be displayed.

・The start date and time for a programmed recording start is based upon your computer system clock.If your computer clock is not set correctly, a programmed recording start may not start properly.

・The estimated finish date and time of recording in one time mode will be automatically calculated from the set recording interval and starting time.

Preheat Time

The Preheat function turns on the power for a connected external sensor to allow you to turn the sensor on for the measurement time only. Here, you can select and set the amount of time you wish to have the sensor turned on before measurement.

By clicking〔▼〕you can select from 50msec, or from 1 ～ 10 seconds.

Note ・For details about the preheat function and its circuitry, see the RVR-52A User's Manual.

■ [Get Settings] Button

The Remote Unit recording settings, registration contents, and remaining battery life are displayed.

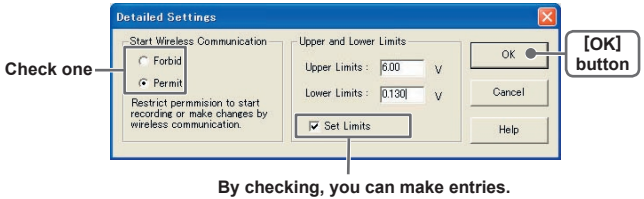
・Registration contents: If a settings transmission was received it displays the Group and Remote Name(s).

・Remaining battery life: If a settings transmission was received it displays the remaining battery life.

■ [Stop Recording] Button

Stop current recording of Data Logger.

■ [Detailed Settings] Button]



Start Wireless Communication

Recording can normally be started by wireless communication between a Data Collector and a RVR-52A Logger, but by choosing [FORBID], permission will not be granted to start recording by wireless communication, thereby preventing accidental recording from occurring. If you wish to forbid the starting of recording by wireless communication, check [FORBID]; to allow, check [PERMIT].

Note

・The Default Setting is [PERMIT]

Upper and Lower Limits

The Data Collector (RTR-57C/57U) can judge whether or not the recorded data that it has downloaded is within the set upper and lower limits. By checking the [Set Limits] box, you will be able to enter an upper and lower limit within the following conditions.

- Upper and Lower Voltage Limits : 0.0 ～ 7.0（V）
  （decimals are valid to the third place）
- Upper and Lower Pulse Limits : 0 ～ 32000（P）
  （Integers only）

Note

・When recording events, there are no Upper and Lower Limit settings to be made.

RVR-52A: Downloading Recorded Data

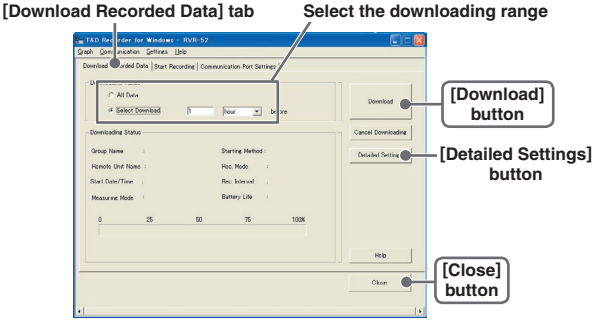
Connect the RVR-52A Unit for communication with your computer.

(For details about connecting the Data Logger, see page 13)

■ Download Recorded Data.

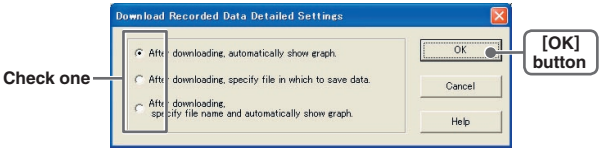
1. In the Main Window, click the icon [RVR-52A].
2. Click the [Download Recorded Data] tab.
3. After selecting the downloading range, click the [Download] button to start downloading.
4. When downloading has been completed, a Graph or Event Viewer will be displayed.

   If you have checked [After downloading, specify file in which to save data] in the Detailed Settings, please view the Graph or Event Viewer after specifying the file in which you wish to save the downloaded data.



■ [Detailed Settings] Button

You can make settings for the processing of the downloaded recorded data.



- **After downloading, automatically show graph**
  After data has been downloaded it will automatically be displayed in the Multi-scale graph Window.
  The File is not saved and if necessary should be done separately.
- **After downloading, specify file in which to save data**
  After data has been downloaded, the [Save File] dialog box will appear wherein you can save the data to a specified file.
- **After downloading, specify file name and automatically show graph**
  The data will be saved to the specified file and the graph fro that data will be automatically shown. Even if the data is set to be automatically shown in a graph; that does not mean it will be saved. Please save it under another name.

RVR-52A : Value Adjustment Function

This function allows you correct or adjust for errors in measurement values. The Data Logger will record only the adjusted value.

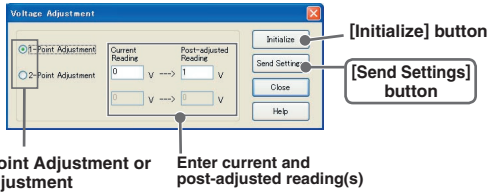
Note
- When you are carrying out adjustments and formulating equations please take care with the settings and take personal responsibility for the process.

■ Voltage: 1-point / 2-point Adjustment

Before : Enter the actual measurement before adjustment
After : Enter the desired measurement after adjustment.
- Entries are valid to one decimal point.
- The input value for [Post-adjusted Reading] must be less than ± 5% in comparison to the input value for [Current Reading].

■ Adjustment Settings

1. Please follow directions as found [Communication between Data Loggers and Computers] by connecting the RTR-57U unit to your computer and place the Data Logger unit face down on top of it. (see p.13 for detail)
2. In the Main Window, click on the Data Logger icon. To open the [Adjustment] Window, click on [Settings] in the Menu Bar and then select [Adjustment Settings] from the pull down menu.
3. Select either [1-point Adjustment] or [2 Point Adjustment].



4. Please enter the actual pre-adjusted value(s) in the [Current Reading] column and the post-adjusted reference value(s) in the [Post-adjusted Reading] column.

5. Click on the [Send Settings] button to send the adjustment equation to the selected Thermo Recorder.

[Initialize] Button
Clears any previous adjustment equation(s) from the Data Logger.

[Send Settings] Button
Transmits the adjustment equation to the Data Logger.

[Close] Button
Quits and closes the window.

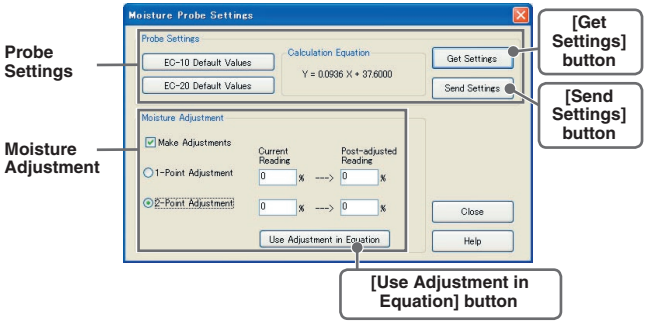
Note
- We cannot guarantee that after carrying out adjustment the measuring accuracy will improve for all measuring ranges.
- By carrying out adjustment on an already adjusted device without first clicking the Initialize button, the new adjustment equation will be be used to further adjust the previously adjusted result. It is important to remember that if adjustment takes place without initializing the device, the adjustment will include the first equation as well as the second and an over adjustment will occur. This over adjustment will be especially large when making a 2-point adjustment and the measurement falls outside of the range of the two points entered.
  When you are carrying out adjustments and formulating equations please take care with the settings and take personal responsibility for the process.

■ Moisture Probe Settings

If under the [Start Recording] tab, you have selected "Measure Moisture by Percentage" as the Measuring Mode, then here you should set into the Data Logger the moisture percentage calculation equation for the moisture sensor you are using.

1. Please follow directions as found in [Communication between Data Loggers and Computers] by connecting the RTR-57C/57U unit to your computer and place the RVR-52A unit face down on top of it. (see p.13 for details)

2. In the Main Window, click on the RVR-52A icon. To open the [Moisture Probe Settings] Window, click on [Settings] in the Menu Bar and then select [Moisture Probe Settings] from the pull down menu.



Probe Settings

Select which sensor you are using, either EC-10 or EC-20 and click the [EC-xx Default Values] button and [Send Settings]button for that sensor.

- EC-10 Default Values: Y = 0.0936 X - 37.6
- EC-20 Default Values: Y = 0.0695 X - 29

Note

- For more details about these values, please see the User's Manual that came with your sensor.

[Get Settings] Button

This allows you to gather the equation that is currently set in the RVR-52A logger.

[Send Settings] Button

This sends the currently displayed moisture percentage calculation equation to the RVR-52A logger.

Moisture Adjustment

Before making adjustments, use the [Get Settings] button to receive the current settings.
By placing a check next to [Make Adjustments], it is possible to make corrections for measurement errors that may occur.
This function allows you correct or adjust for errors in measurement values.The Data Logger will record only the adjusted value.

Current Reading: Enter the actual measurement before adjustment

Post-adjusted Reading : Enter the desired measurement after adjustment.

[Use Adjustment in Equation] Button

The newly adjusted equation will appear in the Moisture Percentage Calculation Equation Area.

[Send Settings] Button

The adjusted equation will be sent to the Data Logger.

Note

- When you are carrying out adjustments and formulating equations please take care with the settings and take personal responsibility for the process.
- We cannot guarantee that after carrying out adjustment the measuring accuracy will improve for all measuring ranges.
- For details about Moisture Adjustment, see the [Help Menu] in the provided software 『T&D Recorder for Windows®』 .

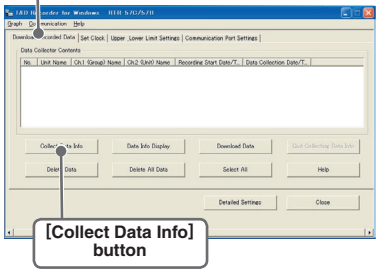
RTR-57C/57U: Downloading Recorded Data

Here all settings and communication for RTR-57C/57U (Data Collectors) can be carried out. Connect a Data Collector to your computer so that communication can occur.
(For details about connecting the Data Logger, see page 11,12)

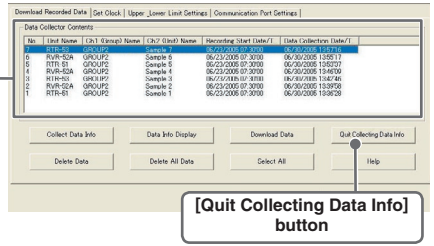
■ Collect RTR-57C/57U Data Info.

1. In the Main Window, click the icon [RTR-57C/57U] and click the [Download Recorded Data] tab.

[Download Recorded Data] tab



2. By clicking the [Collect Data Info] button, communication will be started and the data list saved in RTR-57C/57U will be displayed.

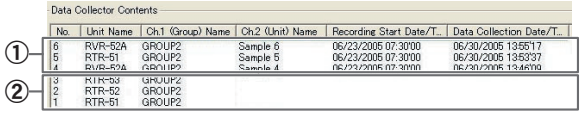


No.	indicates the data number (1-250) assigned in the order of collection. By clicking the [No.] title area you can change the order between ascending and descending.
Unit Name	RTR-51, etc… indicates the type of unit, such as RTR-51.
ch.1 (Group) Name	Shows the Channel 1 Name (For RTR-5 Series and RVR-52A it will be the Group Name).
ch.2 (Unit) Name	Shows the Channel 2 Name (For RTR-5 Series and RVR-52A it will be the Remote Unit Name).
Recording Start Date/Time	Displays the recording start date and time for the data gathered in the Info List.
Data Collection Date/Time	Displays the date and time data was downloaded from the Data Collector to Computer.

Note

- When downloading data from any RTR-5 Series or RVR-52A Unit, the Channel Name display will automatically indicate [Group Name / Remote Unit Name].
- When using the event recorder function, the recording start time will be displayed even if you have downloaded by specifying the download to Data Collector date and time. For details about how to download to the Data Collector, see the User's Manual.
- After gathering data info, it will be stored until the application is closed. However, if you do not close the application and connect to and transmit info with a different Data Collector or manipulate data from the Data Collector Unit, the data info stored in the application will be different from that in the Data Collector Unit. Please gather the data information again.

・**Quit collecting data info while in progress**
By clicking [Quit Collecting Data Info], the collection will be stopped.



① Collection of data info has been completed. All operations are possible.

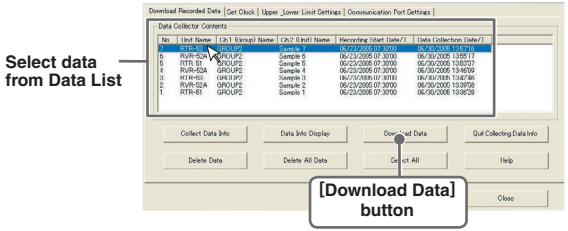
② Data downloading and deletion can be done, but data info cannot be displayed.

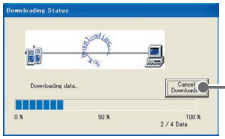
■ Download Recorded Data.

1. Select the data to be downloaded from the data list. By clicking the [Download] button, downloading will be started.

2. When downloading has been completed, the graph will be displayed.

To download several sets of data at one time, see p.61-62 for details.



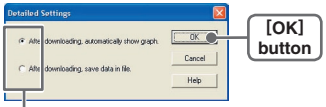


By clicking the [Cancel Downloading] button, you can stop downloading at any time.

Note
・If you have checked [After downloading, specify file in which to save data] in the Detailed Settings, please view the graph after specifying the file in which you wish to save the downloaded data.

■ [Detailed Settings] Button

You can make settings for the processing of the downloaded recorded data.
Select the desired processing method and click [OK] button to complete the setting.



Check one
・After downloading, autmatically show graph.
・After downloading, save data in file.

■ Downloading Several Sets of Data at One Time

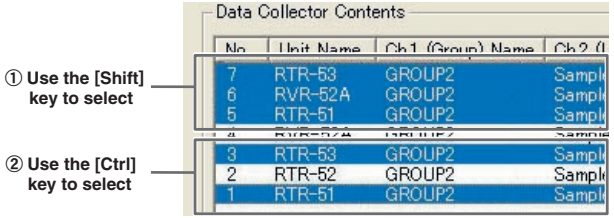
You can make settings for the processing of the downloaded recorded data.

1. While holding down the [Shift] key or [Ctrl] key, click on those sets of data you wish to download.

For Example

① If you wish to download files in a row, such as No.1, No.2 and No.3, hold down the [Shift] key and click on the files for No.1 to No.3.

② If you wish to download files not in a row, such as No.1 and No.3, hold down the [Ctrl] key and click on files for No.1 and No.3.



2. Click on the [Download Data] button, and downloading will be started.

3. When downloading has been completed, a graph will be displayed.

Note

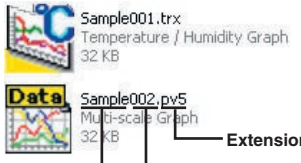
・If you have checked [After downloading, specify file in which to save data] in the Detailed Settings, please view the graph after specifying the file in which you wish to save the downloaded data.

If you are downloading several sets of data at one time, all operations will be carried out according to the settings made in [Detailed Settings].
If you have checked [After downloading, automatically show graph] and have selected several sets of data, it is possible to display the selected data in the same graph. Moreover, in the graph display by entering which file you wish the data to be saved, it is possible to save several sets of data into one file.

Note

・Each kind of data is displayed in the following graphs:
Temperature/Humidity data: Temperature/Humidity Graph
Voltage/Pulse data: Multi-scale Graph
Event data: Event Viewer.

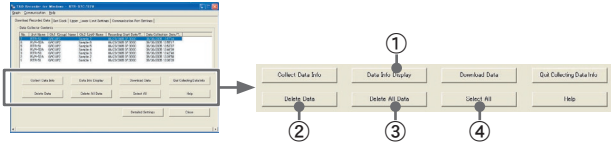
If you have checked [After downloading, specify file in which to save data] and you have selected several sets of data, at the end of the specified file name of every recorded data will appear the list number (No.1 → 001, No.2 → 002, No.3 → 003···)



[Reading]
Common Thermo Recorder Type(.trx)
Voltage Recorder, Wireless for WindowsRVR52 Type(.pv5)
Voltage Recorder, Wireless for WindowsRVR Type(.vt7)
Wireless for WindowsRTR Type(.rt7)

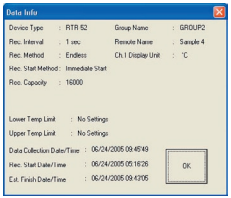
[Writing]
Voltage Recorder, Wireless for WindowsRVR Type(.vt7)

■ About other Buttons (under [Download Recorded Data] Tab)



① [Data Info Display] Button
Displays info about data for all selected data from the list.
However, info cannot be shown for event recording data.

Data Info Display Sample


Data Info
Device Type : RTR-52
Group Name : GROUP2
Rec. Interval : 1 sec.
Remote Name : Sample 4
Rec. Method : Endless
Ch.1 Display Unit : °C
Rec. Start Method : Immediate Start
Rec. Capacity : 16000
Lower Temp Limit : No Settings
Upper Temp Limit : No Settings
Data Collection Date/Time : 06/24/2005 09:45:49
Rec. Start Date/Time : 06/24/2005 05:18:26
Est. Finish Date/Time : 06/24/2005 09:43:06
OK

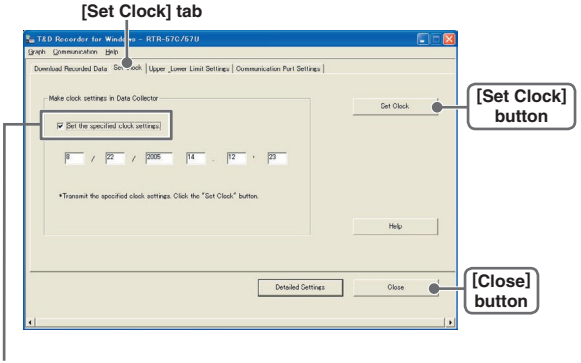
② [Delete Data] Button
Deletes selected data saved in the RTR-57C/57U from the software.

③ [Delete All Data] Button
Deletes all data saved in the RTR-57C/57U from the software.

④ [Select All] Button
Selects all data in list to be downloaded at the same time.

Setting the RTR-57C/57U Clock

1. In the Main Window, click the icon [RTR-57C/57U].
2. Click the [Set Clock] tab.
3. Select setting method and by clicking the [Set Clock] button, the setting will be transmitted.
4. Click [Close] button to complete the setting.



Set the specified clock settings

If checked: The date/time you enter will be set as the date/time in the RTR-57C/57U.

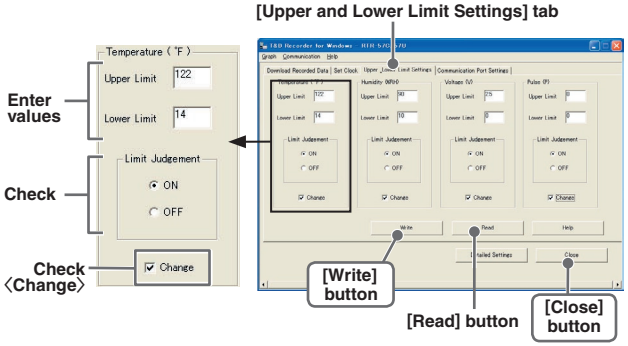
If not checked: The current date/time of your computer will be set as the date/time in the RTR-57C/57U.

RTR-57C/57U : Upper and Lower Limits

Setting is directly possible in RTR-57C/57U Main Units version 2 or higher. The version can be confirmed in [Help]-[Main Unit Version Info].
See the [Help] Menu in RTR-57C/57U for details.

1. In the Main Window, click the icon [RTR-57C/57U].

2. Click the [Upper and Lower Limit Settings] tab, and check the <Change> box.



3. After entering the upper and lower limit values, check <ON> and by clicking the [Write] button, the information will be transmitted.

ON: Judges whether recorded data is within the set range when RTR-57C/57U has downloaded the recorded data.

OFF: Judgment isn't carried out even if upper and lower limits have been set.

4. Click [Close] button to complete the setting.

Note

- If upper and lower limit settings have been made in the RTR-5 Series or RVR-52A Loggers, those settings will take precedence.
- These settings can be made for RTR-57 Series Version 2 and above. If you are unsure of what version you have, please check the version information in the RTR-57 Series [Help] menu.
- For more details, see the [Help] menu in the T&D Recorder for Windows software.

[Write] Button

If the [Change] button has been checked, by clicking the [Write] button you can transmit the upper and lower limit setting values for each type of data to the Data Collector.

[Read] Button

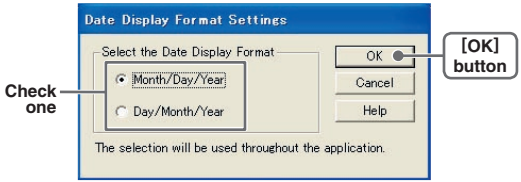
If you wish to view the current settings, click the [Read] button.

Setting the Date Display Format

Set the Date Display Format for your Software.

1. In the [Setting] Menu, select [Date Display Format Settings].

2. Check either [Month / Day / Year] or [Day / Month / Year].



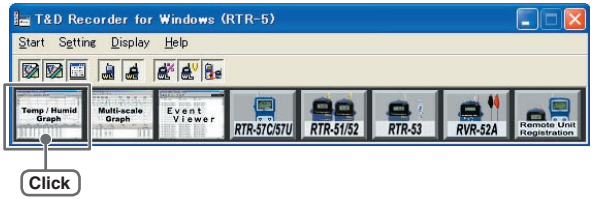
3. By clicking the [OK] button, the setting will be completed.

Note

- The date format chosen will be applicable for all sections of the software including graphs and setting displays.

Temperature / Humidity Graph

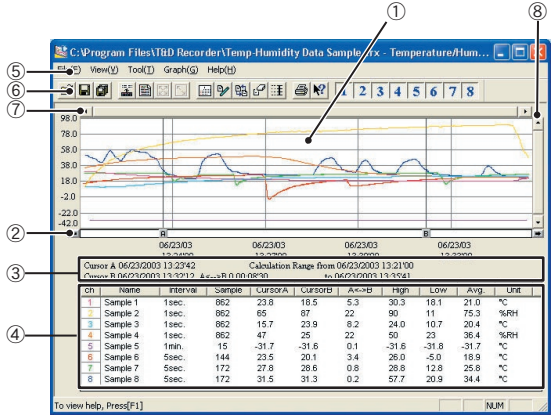
Here operations can be carried out to view in graph form the temperature and humidity data recorded by RTR-5 Series Data Loggers.
Open the Graph display by clicking the icon [Temp/Humid Graph] in the Main Window.



Note

- In the Main Window or in the Settings/Communication Display of RTR-57C/57U, RTR-51/52, or RTR-53, select the [Temp/Humid Graph] from the [Start] menu to open the graph.
- If you have clicked [Display the graph after downloading recorded data], the graph will automatically open.

■ Display Names and Functions



① Graph Area
The area in which the Graph is displayed. The horizontal axis shows time and the vertical axis shows temperature / humidity data.

② A / B Cursor Movement Buttons and A / B Cursor Buttons
By clicking one of the arrow buttons at either side of the bar, you can simultaneously move the A/B cursors. Click and drag the A or B button to move the cursor to the left or right.

③ A and B Cursor Position Information
The approximate date and time for the A and B cursor positions and the time difference between the A cursor and the B cursor is displayed.

④ Channel Info List Display
Displays data information for Channels 1 to 8. The list contains the following info: Channel Name, Recording Interval, Amount of Data, Data Values for AB Cursor positions, the High, Low and Average values for the set calculation range.

⑤ Menu Bar
Click on the desired menu in the Menu Bar to set or display each function from which you can choose from an array of commands.

⑥ Toolbar
Buttons appear for frequently used commands.

① Open File
② Overwrite Data
③ Save Data as…
④ Change Data Display Colors
⑤ Data Display ON/OFF
⑥ Return to Original Size
⑦ Step-by-Step to Original
⑧ Set High, Low, Avg. Calculation Range
⑨ Edit Recording Conditions
⑩ Re-order Channels
⑪ Erase Selected Channels Data
⑫ Vertical Axis Settings
⑬ Print
⑭ Help
⑮ Hide / View Channels

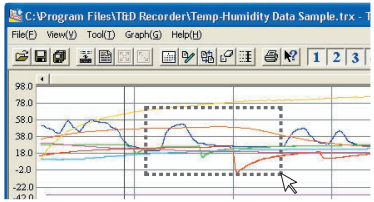
⑦ Horizontal Gauge Bar and Button for Moving Horizontal Axis
By dragging the gauge you can move left and right to the data you want to be displayed. The time axis moves by clicking these arrow buttons.

⑧ Vertical Gauge Bar and Button for Moving Vertical Axis
By dragging the gauge you can move up and down to the data you want to be displayed. The vertical axis moves up or down by clicking these arrow buttons.

■ Zooming In and Out on the Graph

Zoom in Using the Mouse

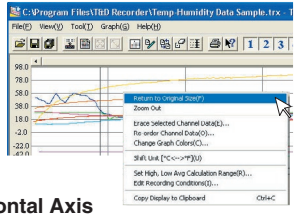
With the left button drag the mouse to outline the area you want to zoom in on.



Menu Display Using the Mouse

By right clicking on the graph, the Menu will be displayed.With [Return to Original Size] or [Step-by Step Return to Original] you can return both the vertical and horizontal axis back to show the entire graph.

・These operations can be carried out via commands in the [Graph] Menu or by clicking icons in the Toolbar.


C:\Program Files\T&D Recorder\Temp-Humidity Data Sample.trx - T
File(F) View(V) Tool(T) Graph(G) Help(H)
1 2 3
Return to Original Size(Y)
Zoom Out
Erase Selected Channel Data(E)...
Re-order Channel Data(O)...
Change Graph Colors(C)...
Shift Unit [^C<->^F](U)
Set High, Low Avg Calculation Range(R)...
Edit Recording Conditions(I)...
Copy Display to Clipboard Ctrl+C

About the Horizontal Axis

The entire graph shows in the horizontal axis the nearest data to the recording start time and the latest data nearest the recording finish time for each channel 1~8. This represents the full scale of the horizontal axis.

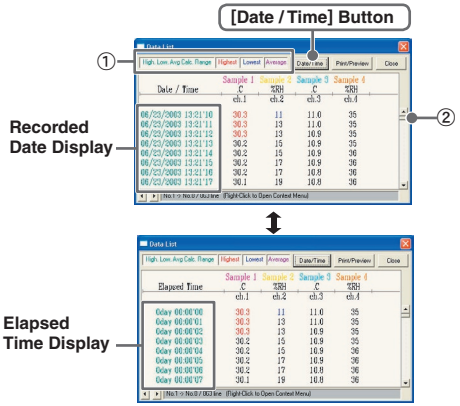
About the Vertical Axis

The entire graph shows in the vertical axis the lowest possible measurement value and the highest possible measurement value for channels 1~8. This represents the full scale of the vertical axis.

■ Data List Display

[Date / Time] Button

By clicking this button, you can shift the display between the recorded date and amount of elapsed time since recording started.

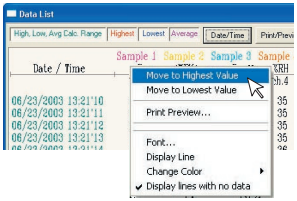


① This is a list of the data that was displayed in graph form. The highest value is in RED, lowest is in BLUE, and the average is in PINK.

② Scroll Bar: By dragging it up and down you can move to the data you want.

Menu Display Using the Mouse

By right clicking on the list, the Menu will be displayed.



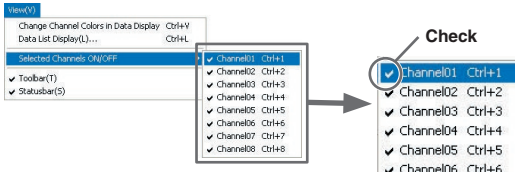
Editing the Graph

■ Changing Graph Display Colors: From the [View] Menu

You can change the letters used in the data list display for each channel between monochrome and channel color

■ Selected Channels ON/OFF: From the [View] Menu

1. The channel numbers are displayed in the pull down menu of [Selected Channels ON/OFF].
2. Check the channel numbers you wish to display.

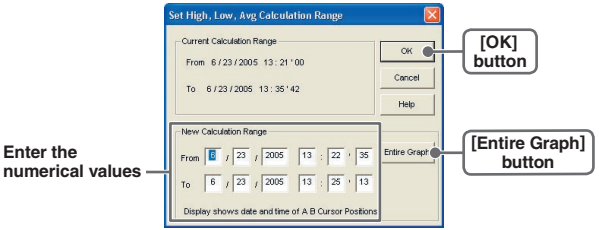


Note

・By clicking a Channel Number in the Toolbar, you can carry out the same operation.

■ Set High, Low, Average Calculation Range: From the [Tools] Menu

1. Set the calculation range in the [Set High, Low, Avg. Calculation Range] box.
2. By clicking the [OK] button, the high, low, average calculation range of each channel data will be changed. On the graph display, the calculation range that you have set will be displayed.


Set High, Low, Avg Calculation Range
Current Calculation Range
From 6/23/2005 13:21'00
To 6/23/2005 13:35'42
OK
Cancel
Help
New Calculation Range
From 6 / 23 / 2005 13 : 22 ' 35
To 6 / 23 / 2005 13 : 25 ' 13
Entire Graph
Display shows date and time of A B Cursor Positions
[OK] button
[Entire Graph] button
Enter the numerical values

[Entire Graph] Button

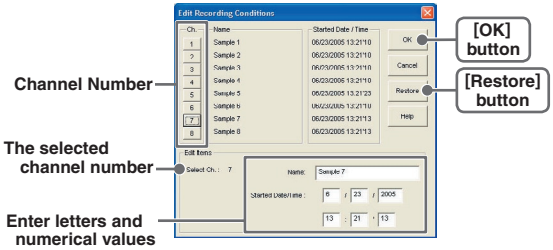
To make the Calculation Range that of the Entire Graph, click the "Entire Graph" button. The dates and times in the [Set High, Low, Avg. Calculation Range] box will be displayed as those of the entire graph.

Set by using the AB Cursors

In the Graph Display, open the [Set High, Low, Average Calculation Range] box adjusting the AB cursors to the desired start and end positions. The dates and times of those cursors will be displayed automatically.

■ Edit Recording Conditions: From the [Tools] Menu

1. By clicking the [Ch.] button you wish to change, the information for that number will be displayed in the "Edit Items".
2. By clicking the [OK] button after changing, the setting will be completed.



Name: Up to 32 letters can be entered.
Starting Date/Time:
The month, day, year, hour, minute and second can be changed.

Note

- If you wish to continue to change other channels, repeat the process as in 1.
- The [Restore] button is effective only during the setting, and cannot return to the condition it was after the [OK] button has been clicked.

■ Re-order Channel Data: From the [Tools] Menu

There are two ways for re-ordering.

- Move by dragging the channel number
- Move by selecting the channel number

【Move by dragging the channel number】

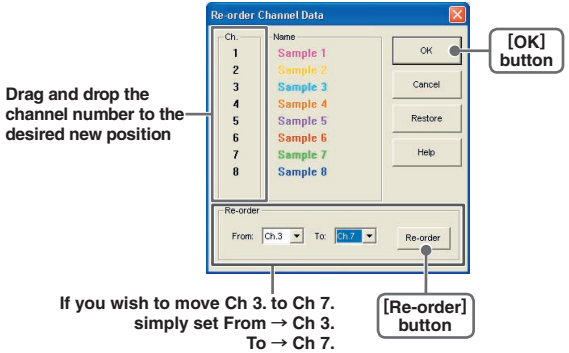
Click on the channel of data you wish to move and drag and drop it to the desired new channel position.

【Move by selecting the channel number】

1. Enter in From: __ , the channel number you wish to move from, and enter the channel number to which you want to move in To: __ .
2. By clicking the [Re-order] button, the movement will be completed.

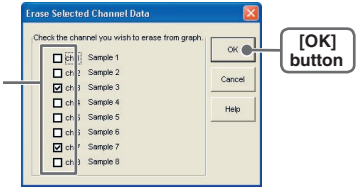
Note

- The [Restore] button is effective only during the setting, and cannot return to the condition it was by clicking the [OK] button.



■ Erase Selected Channel Data: From the [Tools] Menu

1. Put a check on the channel number you wish to erase.
2. By clicking on the [OK] button, the deletion will be completed.



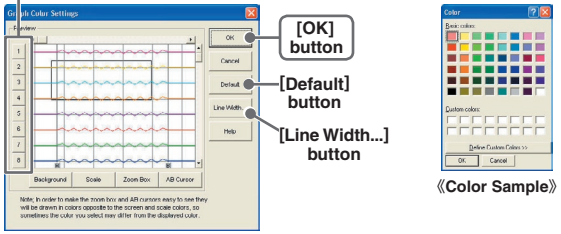
■ Shift Unit (℃ / ˚F) : From the [Tools] Menu

By clicking on [Shift Unit(℃ / ˚F)], you can automatically change the temperature unit scale in the graph display and in the channel info list.

■ Change Graph Colors: From the [Tools] Menu

1. Click the channel number of which you wish to change the color.
2. By clicking each button, color samples will be displayed. Choose the color you want and click the [OK] button.
3. After confirming the color, by clicking the [OK] button the change will be completed.

[Channel No.] button

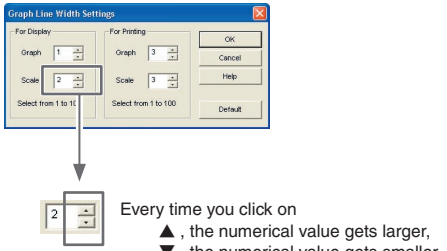


Note

・By clicking the [Return to Default] button, you will return to the color settings when the software was opened.

[Graph Line Width Settings] Button

Change the width of the data lines and the scale lines.



■ Copy Display to Clipboard: From the [Tools] Menu

By clicking [Copy Display to Clipboard], you can copy the currently displayed window to the clipboard and make use of the graph pasting in other software.

■ Graph：From the [Graph] Menu

Return to Original Size
Return from zooming in on one part of data

Zoom In / Zoom Out
Zooms in or out one step at a time

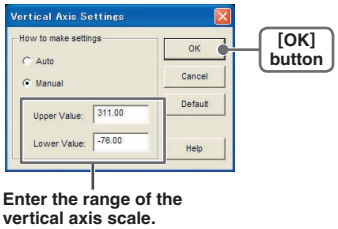
Move Cursor Right / Left
Simultaneously move the AB Cursors to the right or left.

Move Graph Right / Left
Move the graph display to the right or left.

Move Graph Up / Down
Move the graph display up or down.

Vertical Axis Settings (AUTO in Default Settings)
Set the vertical axis scale (temperature)

AUTO: The vertical axis will automatically be changed according to the values of the data.
MANUAL: You can set the upper and lower values of the vertical axis scale.

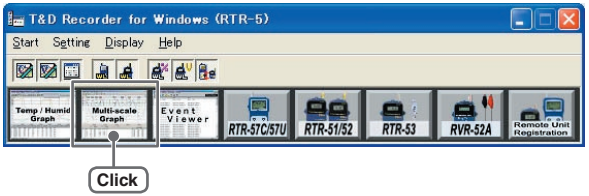


Multi-scale Graph

The Multi-scale Graph enables you to view various axes (different scales) in the same graph.
The [Multi-scale Graph] program will read data files that have been created from the downloaded data from the loggers and to help you analyze that data will allow you to create graphs, data lists, text files and print data. It is also possible to scroll across the graph and make scale settings for each channel.

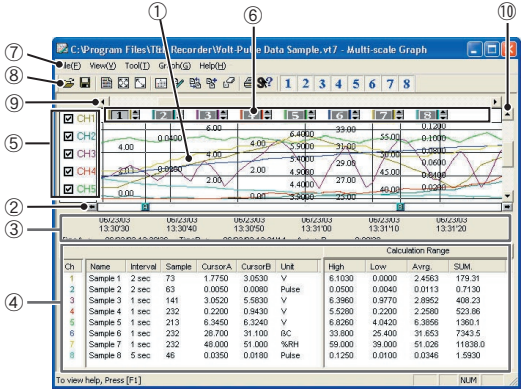
・For detailed information about the compatible data file types for the [Multi-scale Graph], see the Multi-scale Help Menu.

Open the Multi-scale Graph by clicking the [Multi-scale Graph] icon in the Main Window.



Note
・In the Main Window or in the Settings/Communication Display of RTR-57C/57U, or RVR-52A, select [Multi-scale Graph] from the [Start] menu to open the graph.
・If you have clicked [Display the graph after downloading recorded data], the graph will automatically open.

■ Display Names and Functions



① Graph Area
The area in which the Graph is displayed. The horizontal axis shows time and the vertical axis shows the unit of data after having used the conversion equation to convert the original measured voltage.

② A / B Cursor Movement Buttons and A / B Cursor Buttons
By clicking one of the arrow buttons at either side of the bar, you can simultaneously move the A/B cursors. Click and drag the A or B button to move the cursor to the left or right.

③ A and B Cursor Position Information
The approximate date and time for the A and B cursor positions and the time difference between the A cursor and the B cursor is displayed.

④ Channel Info List Display
Displays data information for Channels 1 to 8. The list contains the following info: Channel Name, Recording Interval, Amount of Data, Data Values for AB Cursor positions, the High, Low and Average values for the set calculation range.

⑤ The Vertical Axis Display ON/OFF
Shift the vertical axis scale display ON/OFF.

⑥ Vertical Axis of Each Channel

The vertical axis scale is displayed for each channel. By clicking [▲▼], the axis can be scrolled for each channel.

⑦ Menu Bar
Click on the desired menu in the Menu Bar to set or display each function from which you can choose from an array of commands.

⑧ Toolbar
Buttons appear for frequently used commands.

① Open File
② Overwrite Data
③ Data List Display
④ Return to Original Size
⑤ Step by Step to Original
⑥ Set High, Low, Avg. Calculation Range
⑦ Edit Recording Conditions
⑧ Re-order Channels
⑨ Merge Channel Data
⑩ Erase Selected Channel Data
⑪ Print Preview
⑫ Help
⑬ Hide / View Channels

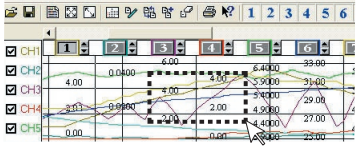
⑨ Horizontal Gauge Bar and Button for Moving Horizontal Axis
By dragging the gauge you can move left and right to the data you want to be displayed. The time axis moves by clicking these arrow buttons.

⑩ Vertical Gauge Bar and Button for Moving Vertical Axis
By dragging the gauge you can move up and down to the data you want to be displayed. The vertical axis moves up or down by clicking these arrow buttons.

■ Zooming In and Out on the Graph

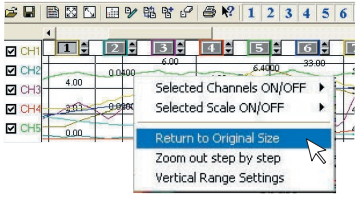
Zoom in Using the Mouse

With the left button drag the mouse to outline the area you want to zoom in on.



Menu Display Using the Mouse

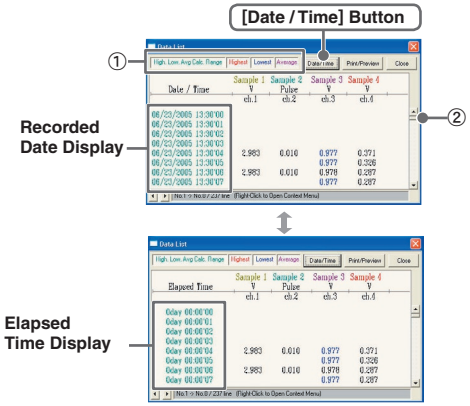
By right clicking on the graph, the Menu will be displayed.With [Return to Original Size] or [Step-by Step Return to Original] you can return both the vertical and horizontal axis back to show the entire graph.



■ Data List Display

[Date / Time] Button

By clicking this button, you can shift the display between the recorded date and amount of elapsed time since recording started.

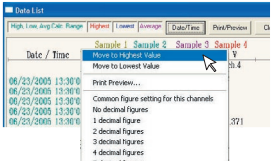


① This is a list of the data that was displayed in graph form.
The highest value is in RED, lowest is in BLUE, and the average is in PINK.

② Scroll Bar: By dragging it up and down you can move to the data you want.

Menu Display Using the Mouse

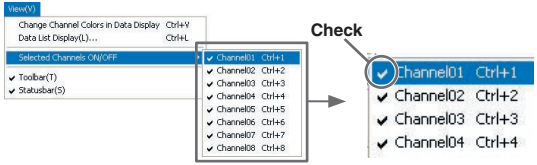
By right clicking on the list, the Menu will be displayed.



Editing the Graph

■ Selected Channels ON/OFF: From the [View] Menu

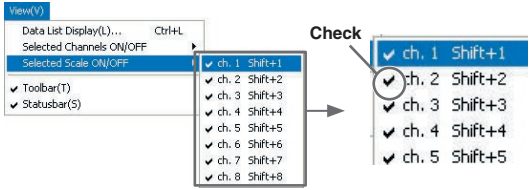
1. The channel numbers are displayed in the pull down menu of [Selected Channels ON/OFF].
2. Check the channel numbers you wish to display.



※ By clicking a Channel Number in the Toolbar, you can carry out the same operation.

■ Scale Display ON/OFF: From the [View] Menu

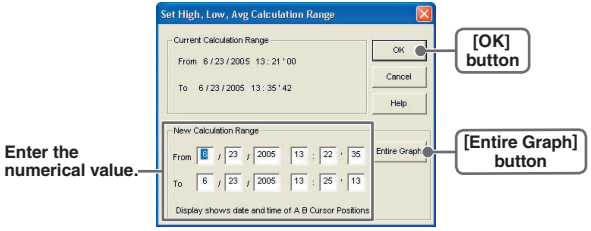
1. The channel numbers are displayed in the pull down menu of [Selected Scale ON/OFF].
2. Put a check next to the channel number(s) you wish to be displayed.



※ You can also hide or view channel scales by checking or mchecking the channel number fo the left of the graph.

■ Set High, Low, Average Calculation Range: From the [Tools] Menu

1. Set the calculation range in the [Set High, Low, Avg. Calculation Range] box.
2. By clicking the [OK] button, the high, low, average calculation range of each channel data will be changed. On the graph display, the calculation range that you have set will be displayed.

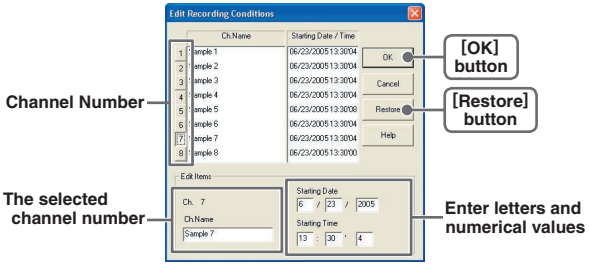

Set High, Low, Avg Calculation Range
Current Calculation Range
From 6/23/2005 13:21'00
To 6/23/2005 13:35'42
OK
Cancel
Help
New Calculation Range
From 6 / 23 / 2005 13 : 22 ' 35
To 6 / 23 / 2005 13 : 25 ' 13
Entire Graph
Display shows date and time of A B Cursor Positions
[OK] button
[Entire Graph] button
Enter the numerical value.

[Entire Graph] Button
To make the Calculation Range that of the Entire Graph, click the "Entire Graph" button. The dates and times in the [Set High, Low, Avg. Calculation Range] box will be displayed as those of the entire graph.

Set by using the AB Cursors
In the Graph Display, open the [Set High, Low, Average Calculation Range] box adjusting the AB cursors to the desired start and end positions. The dates and times of those cursors will be displayed automatically.

■ Edit Recording Conditions: From the [Tools] Menu

1. By clicking the [Ch.] button you wish to change, the information for that number will be displayed in the "Edit Items".
2. By clicking the [OK] button after changing, the setting will be completed.



Name: Up to 32 letters can be entered.

Starting Date/Time:
The month, day, year, hour, minute and second can be changed.

Note

- If you wish to continue to change other channels, repeat the process as in 1.
- The [Restore] button is effective only during the setting, and cannot return to the condition it was after the [OK] button has been clicked.

■ Re-order Channel Data: From the [Tools] Menu

There are two ways for re-ordering.

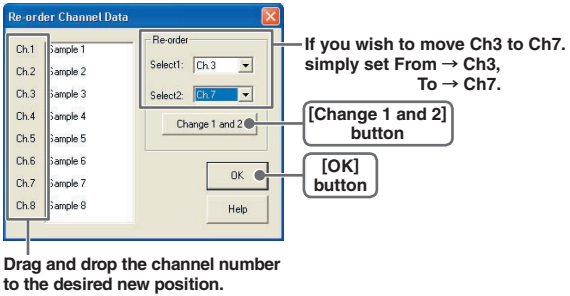
- Move by dragging the channel number
- Move by selecting the channel number

【Move by dragging the channel number】

Click on the channel of data you wish to move and drag and drop it to the desired new channel position.

【Move by selecting the channel number】

1. Enter in From: __ , the Channel number you wish to move from, and enter the Channel number to which you want to move in To: __ .
2. By clicking the [Re-order] button, the movement will be completed.


Re-order Channel Data
Re-order
Select1: Ch.3
Select2: Ch.7
Change 1 and 2
OK
Help
If you wish to move Ch3 to Ch7. simply set From → Ch3, To → Ch7.
[Change 1 and 2] button
[OK] button
Drag and drop the channel number to the desired new position.

■ Merge Channel Data: From the [Tools] Menu

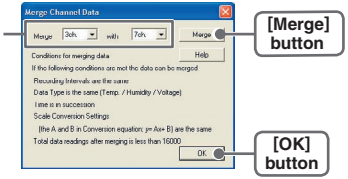
You can merge two different sets of data into one set of data.

1. Click the 〔▼〕 button, and select the channels you wish to merge.

The following kinds of data cannot be merged:

- Recording intervals are different
- Measurement times overlap (Merging is possible after adjusting the times in [Editing Recording Conditions])
- Data types are different (Merging is possible between same types of data; like temperature/humidity)

Ex:
If you wish to merge Ch.3 with Ch.7


Merge Channel Data
Merge
3ch
with
7ch
Merge
Help
Conditions for merging data
If the following conditions are met the data can be merged
Recording Intervals are the same
Data Type is the same (Temp. / Humidity / Voltage)
Time is in succession
Scale Conversion Settings
(the A and B in Conversion equation; y= Ax+ B) are the same
Total data readings after merging is less than 16000
OK
[Merge] button
[OK] button

2. By clicking the [Merge] button, the merging will be completed.

3. Click the [Close] button to finish the merging.

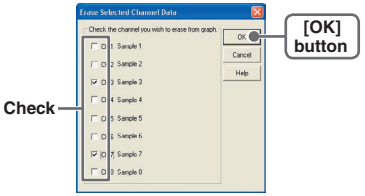
Note

- The channel number and other conditions of the merged data will become those conditions set in the channel that you selected in the second box.

■ Erase Selected Channel Data: From the [Tools] Menu

1. Put a check on the channel number you wish to erase.

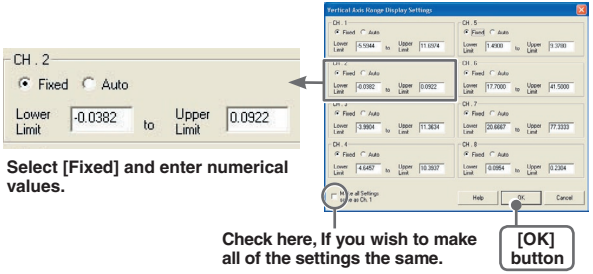
2. By clicking on the [OK] button, the deletion will be completed.



■ Vertical Axis Range Display Settings: From the [Tools] Menu

You can set the upper and the lower limits of the graph's vertical axis scale for each channel.

1. Check [Fixed] of the channel you wish to set.
2. Enter upper and lower limit values.
   Set the lower limit at more than –40,000 and set the upper limit at less than 40,000.
3. By clicking the [OK] button, the setting will be completed.



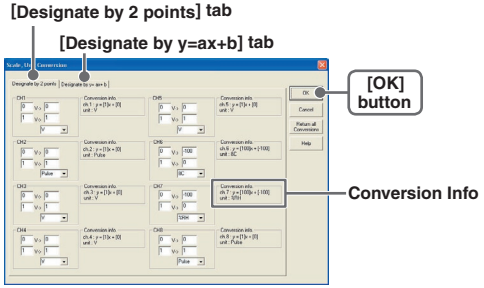
[Make all channel settings the same as Ch.1]
Set CH.1 [Fixed] and by putting a check on [Make all Settings the same as Ch.1]; all channel settings will be the same as CH.1 regardless of other channel settings.

Note
・If you have put a check on [Fixed], the lines in the graph may exceed the boundaries of the graph.

■ Scale and Unit Conversion: From the [Tools] Menu

You can convert the scale and the unit of downloaded data for each channel.

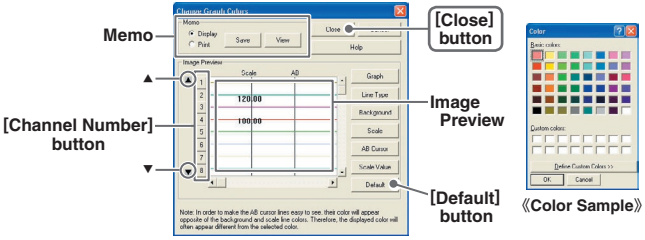
1. Select from [Designate by 2 points] tab or [Designate by y=ax+b] tab.



2. Set conversion formulas and units.
3. By clicking the [OK] button, the setting will be completed.

[Conversion Info]
Current conversion formulas and units are displayed here.
"y" indicates the data after conversion, and "x" indicates the voltage entering from the sensor.

■ Change Graph Colors: From the [Tools] Menu



1. Click the [Channel Number] button, and click the button of the item that you wish to change.
- When changing colors, click on a button to display the color samples. Choose the desired color and click the [OK] button to change the color.
- If you wish to change line width, every time you click the〔▲〕button, the width gets wider, and every time you click the〔▼〕button, the width becomes more narrow.

2. Confirm the width in the image preview and click the [Close] button to complete the change.
- By clicking the [Return to Default] button, the color settings will return to the Default Settings.

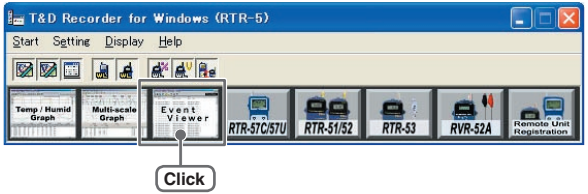
[Memo]
You can save the settings for Display and/or Print respectively.

1. Select「Display」or「Print」.

2. By clicking the [Save] button, the settings will be saved.
- By clicking the [View] button, you can see the settings that had been previously saved.

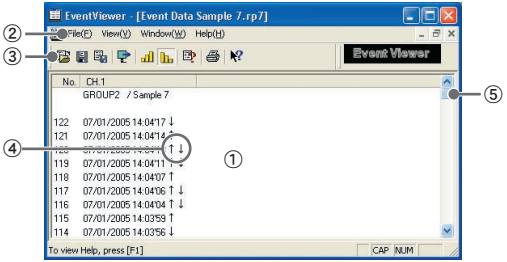
Event Viewer

Here you can manage (view data lists, print, and save as text file) recorded event data.
Open the Event Viewer Graph by clicking the [Event Viewer] icon in the Main Window.



Note
- By selecting [Event Viewer] from the [Start] Menu in the Settings/Communication Display of the Main Window or RTR-57C/57U or RVR-52A, the Event Viewer will be opened.
- If you have checked [After downloading, automatically show graph], the viewer will automatically be opened.

■ Display Names and Functions



① Data Window

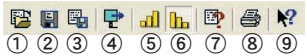
In the data window are displayed the Data Number, Channel Name, Recorded Date and Time, Rising Edge/Falling Edge.

② Menu Bar

Click on the desired menu in the Menu Bar to set or display each function from which you can choose from an array of commands.

③ Toolbar

Buttons appear for frequently used commands.



① Open File	④ Shift Display	⑦ File Info
② Save Data as···	⑤ Display in ascending order	⑧ Print Preview and Print
③ Save as Text File	⑥ Display in descending order	⑨ Help

④ ↑ / ↓ / ↑↓

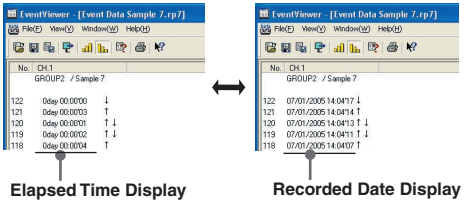
〔↑〕denotes rising pulse
〔↓〕denotes falling pulse
〔↑↓〕denotes a simultaneously occurring rising and falling pulse.

⑤ Scroll Bar

You can move up and down to the desired position in the graph.

■ Shift Display: From the [View] Menu or Toolbar

You can shift the display between the recorded date and the amount of elapsed time from the last recorded data.



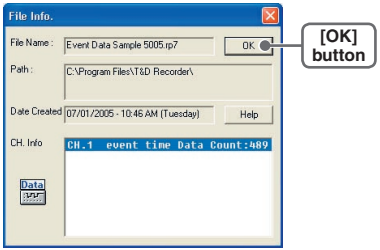
■ Shift Ascending / Descending: From the [View] Menu or Toolbar

You can shift the display to view the recorded data either from the oldest to the newest or from the newest to the oldest.

Event Viewer:File Info

■ View File Info about data in the currently displayed data list.

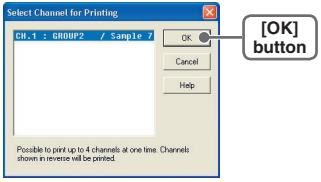
1. Select [File Info] from the [View] Menu.
2. Click the [OK] button to return to the previous window.



File Name：File name of data currently in display
Path：Location where file is saved
Date Created：The date and time when the data file was created
CH. Info：Channel Number, Recording Method and Data Count

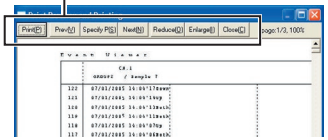
Event Viewer:Print Preview and Print

1. In the [File] Menu, select [Print Preview and Print].
2. In [Select Channel for Printing] the channel numbers and names will appear. Select the number of the channel(s) you wish to print and click [OK].
   - It is possible to choose up to 4 channels at one time.


Select Channel for Printing
CH.1 : GROUP2 / Sample 7
OK
Cancel
Help
Possible to print up to 4 channels at one time. Channels shown in reverse will be printed.
[OK] button

3. The [Print Preview] will appear. After confirming it is what you wish to print, click [Print] to start printing.

Button Functions



[Print] Print box will appear and printing will begin
[Previous] Preview the previous page
[Specify P] Specify the page you wish to preview in the [Specify Page to be Viewed] box and a preview of that page will appear
[Next] Preview the next page
[Reduce] Reduce the size of the displayed page
[Enlarge] Enlarge the size of the displayed page
[Close] Close the Print Preview Window and return to the Main Window

Saving a File

If you have clicked [Display the graph after downloading recorded data], and you make any changes to the data after displaying, make sure to save those changes if necessary.

Note

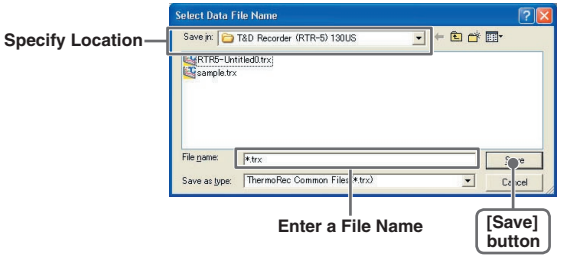
・See p.62 for details about compatible data file types.

■ 3 Ways to Save Files: Temp/Humid Graph and Multi-scale Graph

- **In the [File] Menu, select [Overwrite All Data]**
  Will save any changes to file without changing File Name and Saving Location. The same operation can be carried out from [Save] in the Toolbar.
- **In the [File] Menu, select [Save All Data as...]**
  Save with a new File Name.
- **In the [File] Menu, select [Save Displayed Data]**
  Save only that data in the current display. This is handy when you wish to save only the desired data.

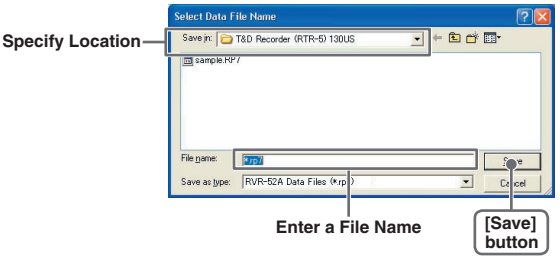
EX: [Save All Data as...]

1. Select [Save All Data as...] in the [File] Menu.
2. Specify the [Location] and enter a [File Name].
3. Click [Save] to complete the saving process.



■ Saving Event Viewer Data

- **In the [File] Menu, select [Save All Data as...]**
  Save with a new File Name.



1. Select [Save All Data as...] in the [File] Menu.
2. Specify the [Location] and enter a [File Name]
3. Click [Save] to complete the saving process.

Saving Data in Text File

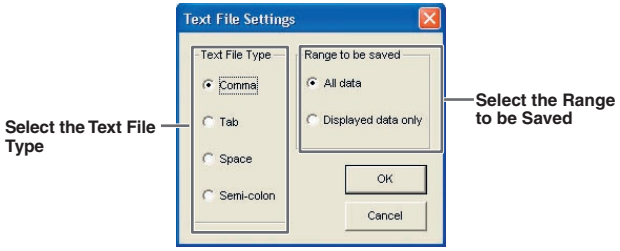
By saving the recorded data as text file, you can create a file type that can be read by common spreadsheet software.

■ When saving Temp/Humid Graph and Multi-scale Graph data as Text File

1. Select [Save in Text File] in the [File] Menu.
2. Select the [Text File Type] and [Range to be Saved], and click [OK].
   - Comma, Tab, Space, and Semi-colon are codes used by common spreadsheet software, such as Excel and Lotus, when reading Text File to divide cells.
3. Designate the location to which the file should be saved and click [Save] to create and save the data as a Text File document.
   - The extension for the created file will be [.TXT].

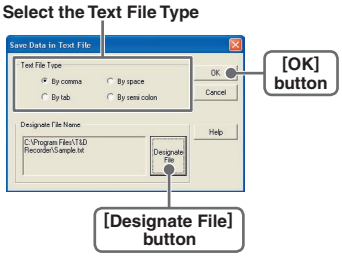
Note
- Text File cannot be read into T&D for Windows graphs.
- The display layout differs between the Temp/Humid Graph or the Multi-scale Graph.

EX：Temp/HumidGraph Text File Settings Window



■ When saving Event Viewer data as Text File

1. Select [Save Data in Text File] in the [File] Menu.
2. Select the [Text File Type] and click [Designate File] and [OK].
   - Comma, Tab, Space, and Semi-colon are codes used by common spreadsheet software, such as Excel and Lotus, when reading Text File to divide cells.



3. Designate the location to which the file should be saved by clicking [Designate File] and click [OK] to create and save the data as a Text File document.

Note
- The extension for the created file will be [.TXT].
- Text File cannot be read into T&D for Windows graphs.

Opening a File

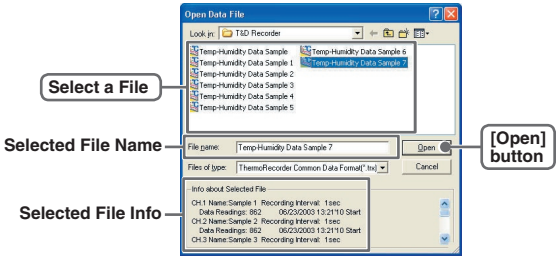
To open a previously saved file, designate the file name to open it. To open multiple files at once, hold down the Ctl-key and select the files you with to open.

Note

・See p.62 for details about compatible data file types.

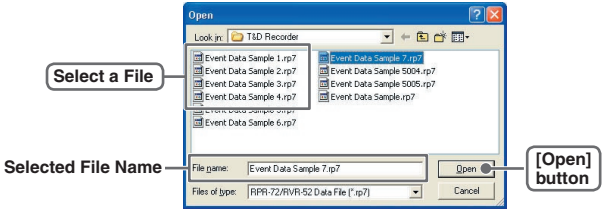
■ Opening a File with the Temp/Humid Graph and Multi-scale Graph

1. Select [Open] in the [File] Menu
2. Select the name of the data you wish to open and click [Open] to view the data in graph form.



■ Opening a File with the Event Viewer

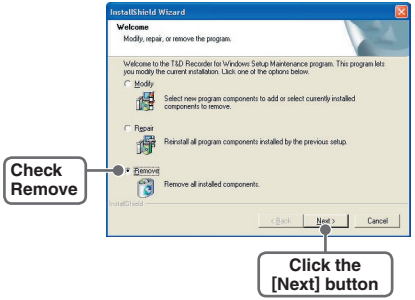
1. Open the Event Viewer from the RTR-57C/57U or RVR-52A [Graph] Menu.
2. In the Event Viewer Window under the [File] Menu, click [Open] and a list will apper.



How to Re-install

Before re-installing the software, make sure to carry out the uninstall program first. Before you begin the uninstall program, first make sure to quit all T&D Recorder for Windows programs.

1. In the Windows Control Panel, click on [Add/Remove Programs].
2. From the list of currently installed programs, select [T&D Recorder for Windows] and click the [Add / Remove] button.
3. The [Install Shield Wizard] will appear. Check [Remove], and click [Next].


InstallShield Wizard
Welcome
Modify, repair, or remove the program.
Welcome to the T&D Recorder for Windows Setup Maintenance program. This program lets you modify the current installation. Click one of the options below.
Modify
Select new program components to add or select currently installed components to remove.
Repair
Reinstall all program components installed by the previous setup.
Remove
Remove all installed components.
InstallShield
< Back
Next >
Cancel
Check
Remove
Click the
[Next] button

4. Follow the directions to Uninstall.
5. To re-install, follow the directions to [Install].

Note

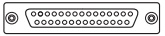
・Even after uninstalling, saved data files will still remain in the folders and locations they were saved in. Also, saved Remote Unit registration info may still remain. If you wish to delete all of these data and registration files, make sure to delete all of the relevant folders after uninstalling but before re-installing.

Troubleshooting

Q: I can't get the communication cable connected to the computer. What should I do?

A: Please connect the communication cable provided with the Thermo Recorder into the serial port of your computer (D-SUB 9 pin male connector). If for some reason you cannot connect directly, please use an appropriate adapter (gender changer plug) as explained below.

《D-SUB 9 pin male》


《D-SUB 25 pin female》

《Half pitch 14 pin female》

・If the connector on your computer is a D-SUB 9 pin male then there is no need for an adapter.
・If the connector on your computer is a D-SUB 25 pin female then use an adapter (D-SUB 25 pin male to a D-SUB 9 pin male).
・If the connector on your computer is a Half pitch 14 pin female then use the adapter (Half pitch 14 pin male to a D-SUB 9 pin male) or a combination (Half pitch 14 pin male to D-SUB 25 pin male) and (D-SUB 25 pin female to a D-SUB 9 pin male).

Q: I can't download settings and/or data from the Thermo Recorder to my computer. What should I do?

A: Check to make sure that the power of the main unit is ON.

A: Check to make sure that the connection is proper. Communication will take place only through the serial port (RS-232C) and will not work through the printer port or any other port.

A: Check to make sure that you can control the Thermo Recorder via the software.

A: Make sure that the serial port has been selected correctly in the [Serial Port Settings] Tab pull in the software. Please check which port you are connected to (COM1-COM8) and select appropriately.

A: If you have access to another computer, try to see if you can download using it.

A: If you have a computer with energy saving function settings, make sure that the serial port has not been turned off. Especially on NEC brand PC98 notebook computers the default setting maybe such.

A: If your computer is a DOS/V type, check to make sure that the serial port has not been rendered unusable by the BIOS setting.

A: If your computer is Windows 98/Me/NT/2000/XP please make sure that the serial port setting has not been made to render it unusable. With many all-in-one computers it serves as the modem jack.

〔How to check:for Windows XP〕

① In the Start Menu, move the mouse to「My Computer」and right click.

In the pop-up menu click on [Properties], and the「System Properties」window will open.

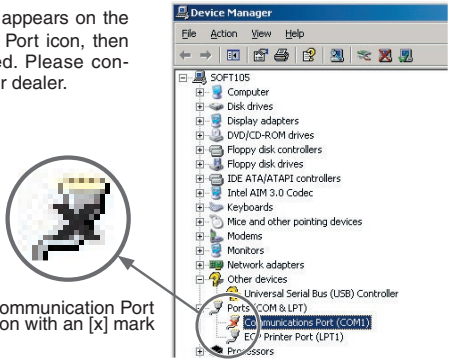
《「Start Menu」Window》

《「System Properties」Window 》

② Click on the [Hardware] Tab、and then click on the [Device Manager] button to open the「Device Manager」Window. There under [Ports (COM & LPT)] you can check [Communications Port (COM1) or (COM2)].

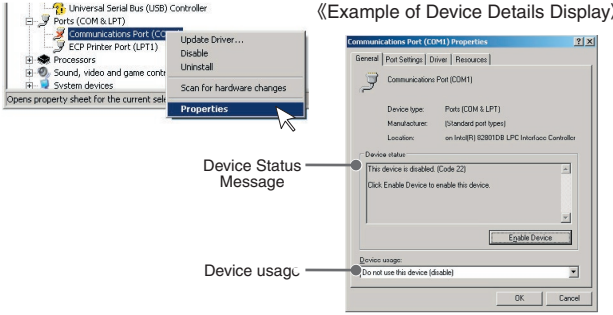
《「Device Manager」Window 》

・If an [!] or [x] appears on the Communications Port icon, then it cannot be used. Please contact you computer dealer.



・Right click on Communications Port (COM1) or (COM2), then click on [Properties] in the pop-up window to view details about the device.

《Example of Device Details Display》



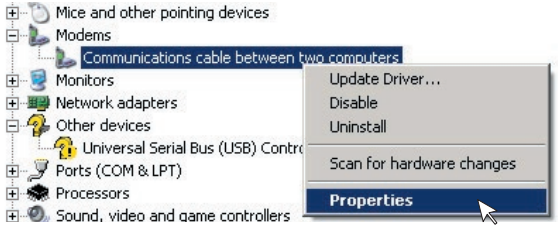
A: If your computer has an internal modem, make sure that the communication port is not being used by it. In some cases, even though no settings appear for the communication port, it cannot be used. Check to see which port is being used by the modem.

〔How to check:for Windows XP〕

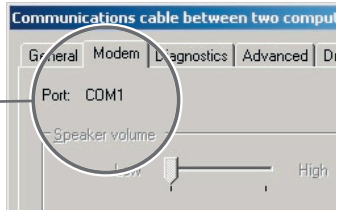
① Open the「Device Manager」following the steps outlined on p 79, 80.

② Under [Modems] right click on [Communications cable between two computers] then in the pop-up menu click on [Properties], in a short time a new window will appear.

《「Device Manager」Window（extract)》



③ By clicking on the [Modem] tab、you can check which communication port the modem is using.



Example of when Modem is using Communication Port (COM 1)

A: Sometimes communication will not work if an extension cable has been added to the communication cable, or if a switch has been added to the serial port (RS-232C).

A: Check to see if some other communication software is in use.

A: Most desktop models have two serial ports, try changing the plug to the other port and change the settings.

Q: The date and the time of the recorded data are different from the actual date and time. What should I do?

A: The Thermo Recorder takes the date and time from your computer when it is set up. Make sure that the date and time are correct on your computer.

Q: USB communication between RTR-57U and my computer doesn't work. What should I do?

A: Please read the RTR-57U User's Manual.

Specification

Compatible Devices	RTR-57C/57U・RTR-51・RTR-52・RTR-53・RVR-52A
Number of Channels	8 Channel Simultaneous Display and Processing (Up to 4 RTR-53 units / Up to 8 units for RTR-51,52 and RVR-52A / Possible to process mixed data from TR-5 and TR-7 Series units)

[Communication Functions]

RTR-5	Recording Start (Immediate Start / Programmed Start)・Recording Stop・Main Unit Settings (Recording Interval・Recording Method・Upper and Lower Limits・Permission to Start Recording by Wireless Communication)・Downloading of Recorded Data Adjustment Function (1-point or 2-point method)
RVR-5	Recording Start (Immediate Start / Programmed Start)・Recording Stop・Main Unit Settings (Recording Interval・Recording Method・Upper and Lower Limits・Voltage Measurement Method (Instantaneous Value / Average Value/Moisture)・Pulse Measurement Method (Rising Lo → Hi, Falling Hi → Lo)・Permission to Start Recording by Wireless Communication・Downloading of Recorded Data
RTR-57C/57U	Remote Unit, Group Settings / Contents Display・Communication Frequency Channel Settings・Collect Data Info・Data Info Display・Delete Data・Download Data・Set Clock・Upper and Lower Limit Settings

[Temp/Humidity Graph]

Graph	Temp / Humidity Graphs for Each Channel (Zoom out / in and scroll)・Change Channel Colors・Turn ON and OFF Channel Display
Data Display	Channel Name・Recording Interval・Number of Readings・Highest, Lowest and Average Reading・Unit of Measurement・AB Cursor Dates / Times and Data Readings・Calculated Difference between Cursor A and B
Others	Data List Display・Calculation Range Settings・Data Maintenance・Edit Recording Conditions・Delete Data by Channel・Re-order Data by Channel

[Multi-scale Graph]

Graph	Graphs for Each Channel (Zoom in/out and scroll with mouse or keyboard)・Vertically Scroll Graph for Each Channel・Channel Graph Color・Background Color・Customize Graph Scale Lines・Turn ON and OFF Channel Display・Move Vertical Scale to Desired Position in Graph (View / Hide Scale for Each Channel)
Data Display	Channel Name・Recording Interval・Number of Readings・Highest, Lowest and Average Reading・Unit of Measurement・AB Cursor Dates / Times and Data Readings・Calculated Difference
Others	Data List Display・Change Scales・Calculation Range Settings・Set Display Range for Vertical Axis

[Event Viewer]

Event List	Edit Recording Conditions・Delete Data by Channel・Re-order Data by Channel・Event List Display showing Time of Event for Each Channel (possible to scroll with mouse or keyboard)・Rising Signal (Lo → Hi) / Falling Signal (Hi → Lo) / Falling Signal & Rising Signal・Hide or View Other Functions・Ascending -Descending Order Switch
Others	Serial Port Auto Find Function
File OutPut	T&D Common Data File・Text File (CSV, etc)・(Selected Range or File for Entire Period)
Printing	Graphs / Tables

[Compatible]

OS	Microsoft Windows 98SE / Me Microsoft Windows 2000 / Xp
PC / CPU	IBM Compatible with higher than Pentium 90MHz Serial Port (RS232-C D-sub 9pin)
Memory	More than 16 MB
Hard Disk	More than 4MB of free space (Data will need more space)
Monitor	VGA (640 × 480) more than 256 colors

■ **For product information or questions contact us at:**

T&D CORPORATION

5652-169 Sasaga Matsumoto, Nagano Japan 399-0033
Tel: +81-263-27-2131
Fax: +81-263-26-4281
E-mail: overseas@tandd.co.jp

Office Hours:Monday to Friday 9:00-12:00/13:00-17:00
(GMT +9:00 Tokyo Time)

[Home Page]

We have opened an English Homepage for your convenience. Here you can find information about our company, news, products, upcoming events, software and User' s Manual downloads, as well as, other support. Please stop by and see what we have to offer.

http://www.tandd.com/

T&D Recorder for Windows® (RTR-5 US)
User' s Manual

Published by T&D CORPORATION

© Copyright 2002-2005 T&D Corporation. All rights reserved.

This is printed on 100% recycled paper.